



**US Army Corps
of Engineers**
Fort Worth District

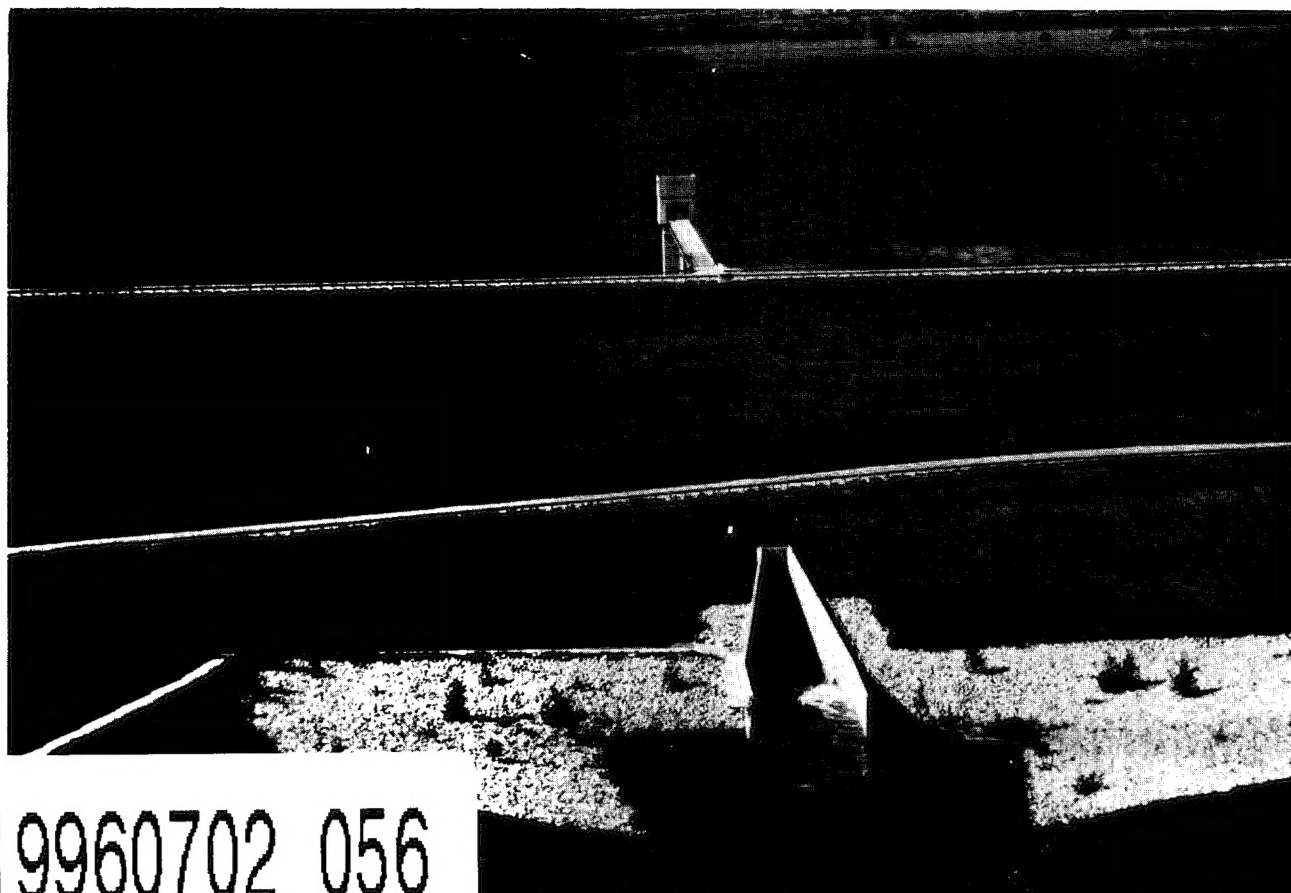
DISTRIBUTION STATEMENT A

Approved for public release
Distribution Unlimited

Aquilla Lake Final Foundation Report

**Embankment, Spillway and
Outlet Works**

DTIC QUALITY INSPECTED 4



19960702 056

Volume II

REVISED

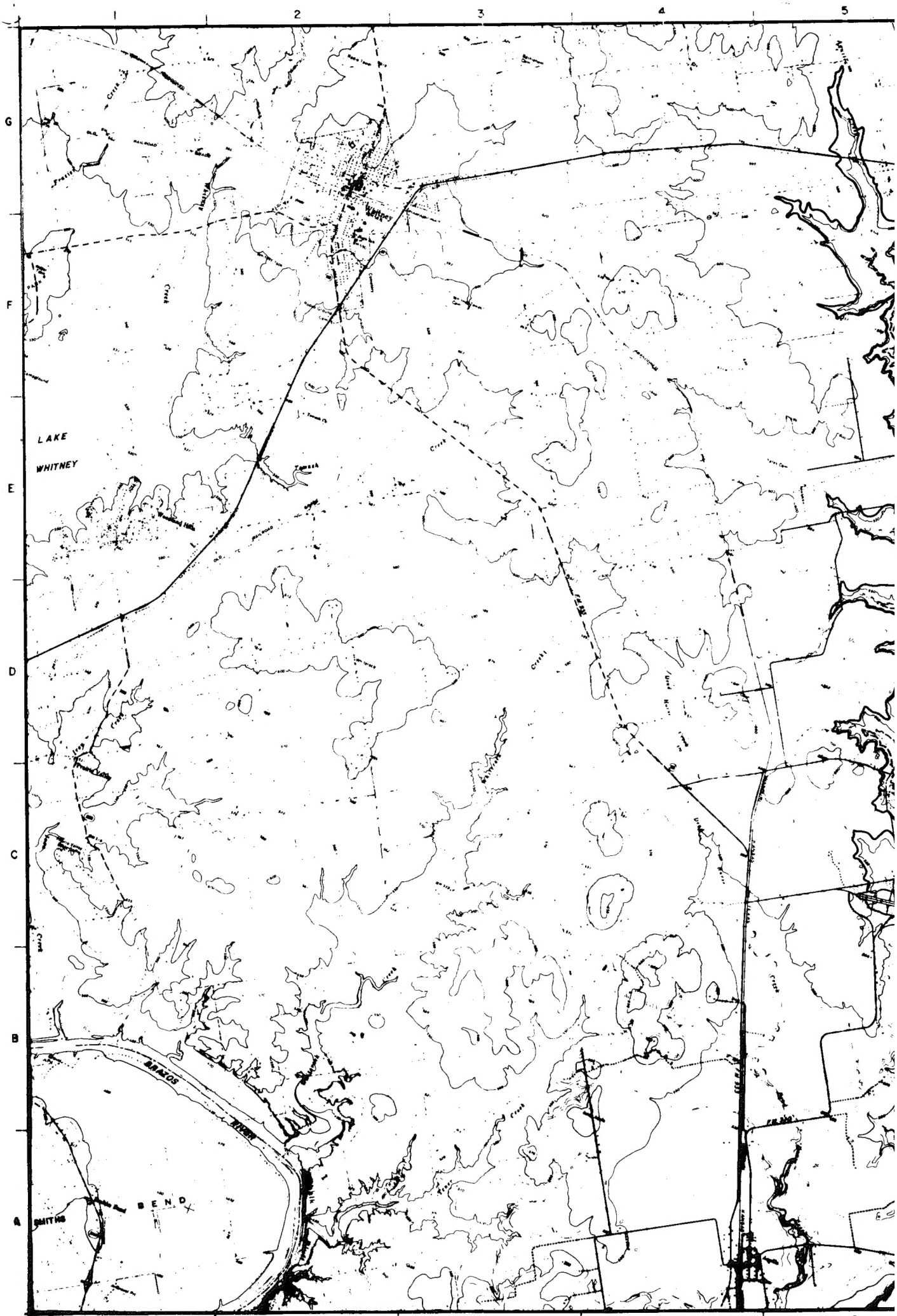
March 1996

November 1987

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.



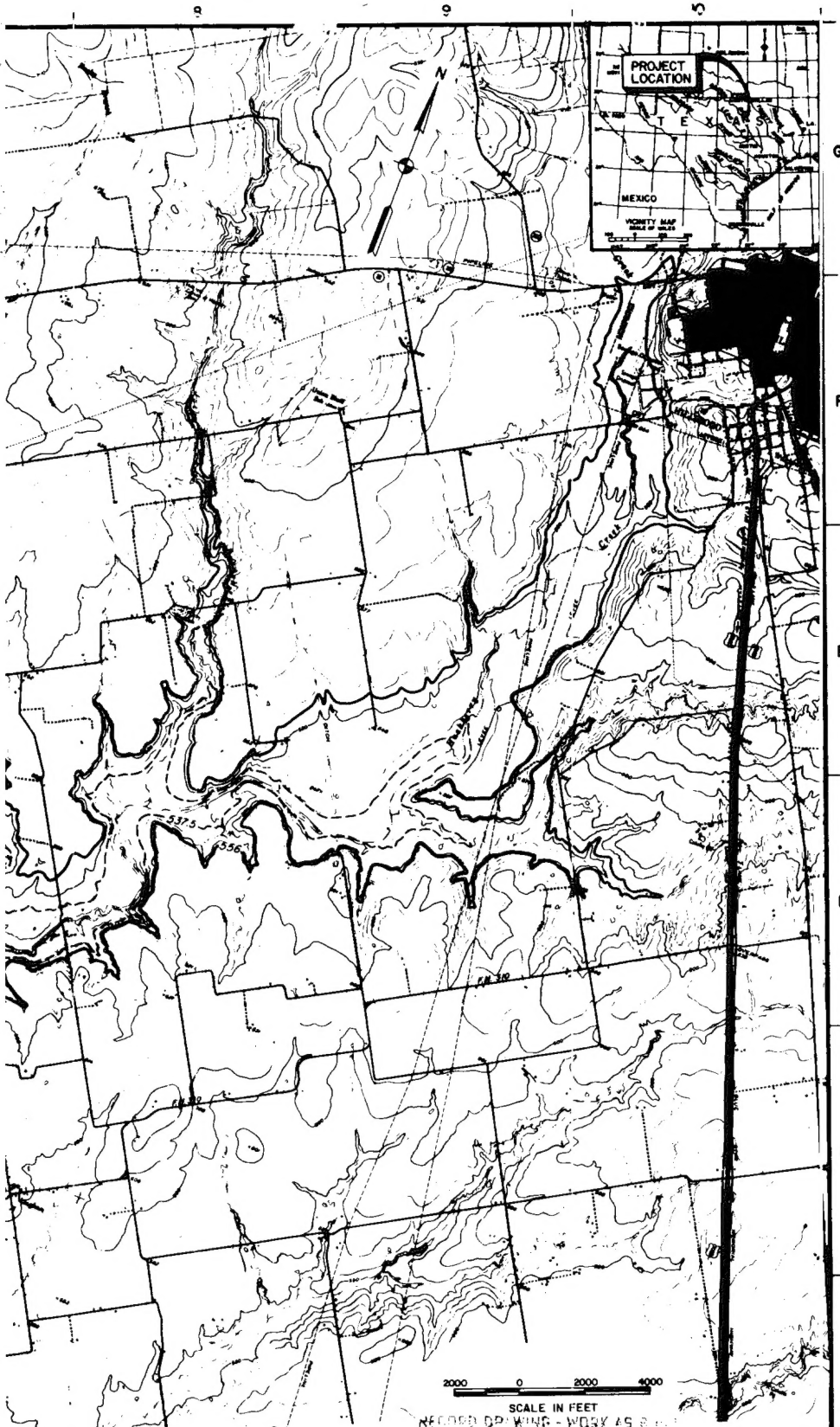


2000
REF 1000

ACTION	
U.S. ARMY	
DESIGNED BY:	(M)
DRAWN BY:	
CHECKED BY:	
SUBMITTED BY:	
ENGINEER	

LEGEND

- CONSERVATION POOL EL. 537.5
- FLOOD CONTROL POOL EL. 556



LEGEND
IRIGATION POOL EL. 537.5
CONTROL POOL EL. 536

REV. NO.	NO.	ACTION	DATE	DESCRIPTION OF REVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____
SUBMITTED BY: _____

**AQUILLA LAKE
AQUILLA CREEK, TEXAS
INITIAL EMBANKMENT, PARTIAL SPILLWAY
EXCAVATION, AND OUTLET WORKS**

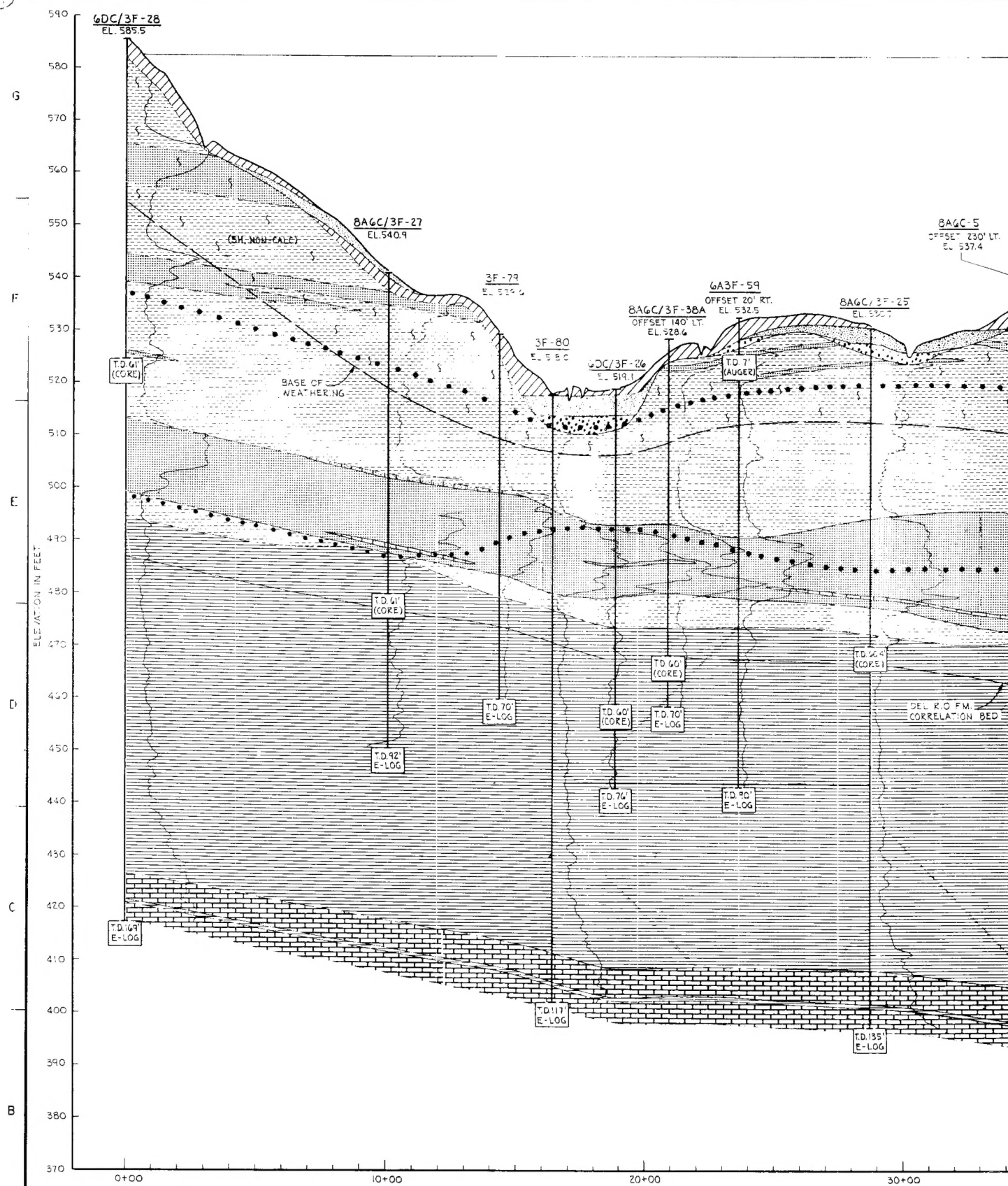
LAKE MAP

INV. NO. DACH6-115-0042	DATED: MAY 1964
CONTR. NO. WATWAY 78-C-0106	SEQUENCE NO. 3
DRAWING NUMBER	SHEET NO. 3



NKMENT SECTION A-A, SEE SEQ. 76 AND 81
ET WORKS SECTION B-B, SEE SEQ. 82
WAY SECTION C-C, SEE SEQ. 83
ION ON STATION 19+10 D-D, SEE SEQ. 84 & 85
ION ON STATION 40+60 E-E, SEE SEQ. 86
ION ON STATION 47+20 F-F, SEE SEQ. 87

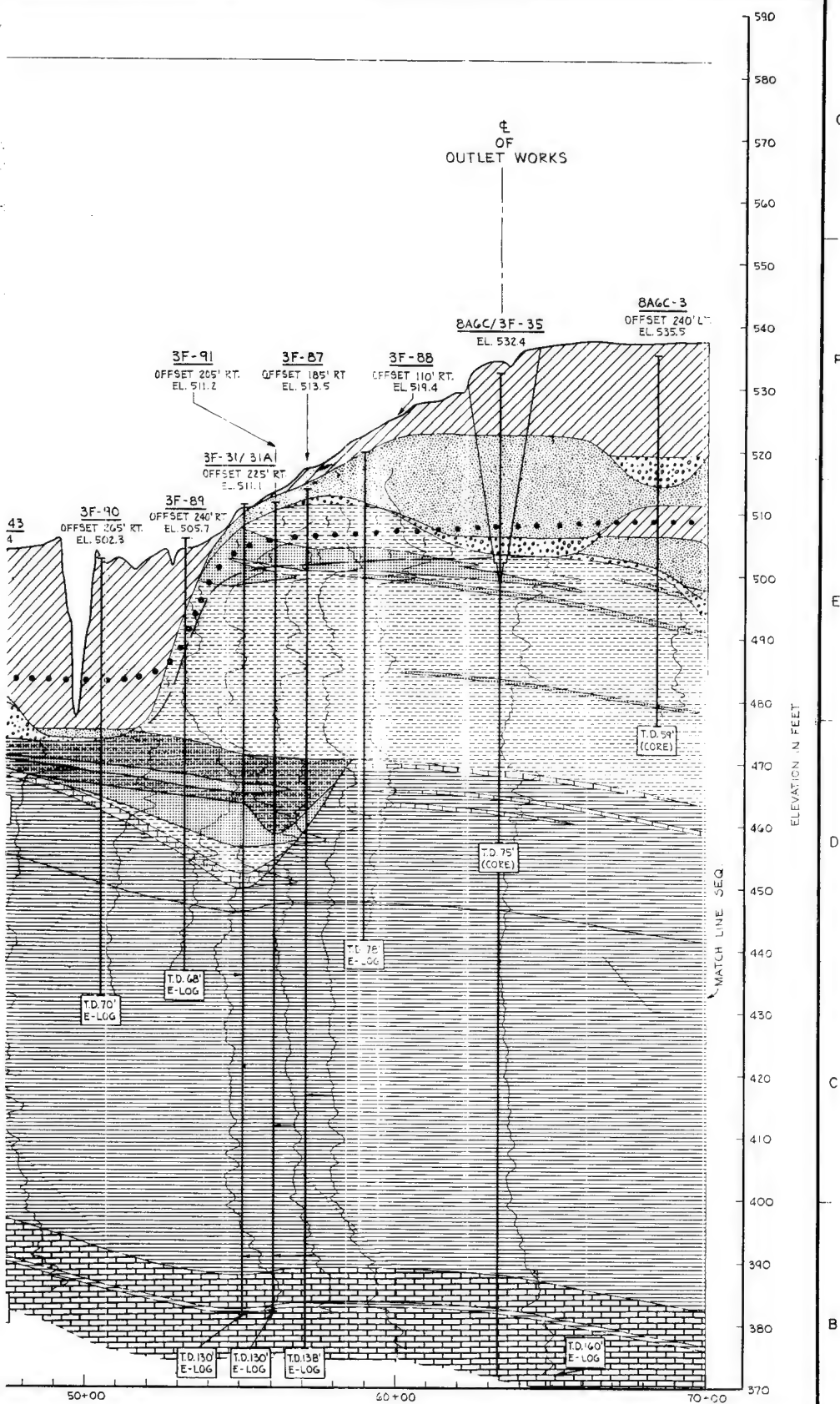
AN	AM 40002 JBNWBC	GENERAL REVISIONS
ATTENTION NO.	ACTION	DATE
		DESCRIPTION OF REVISION
<p align="center">U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS</p>		
DESIGNED BY:	<p align="center">AQUILLA LAKE AQUILLA CREEK, TEXAS</p>	
DRAWN BY:	<p align="center">COMPLETION OF EMBANKMENT AND SPILLWAY AND CONSTRUCTION OF</p>	
B. M. B.	<p align="center">SERVICE BRIDGE, ACCESS ROADS, PROJECT BUILDING, VISITORS OVERLOOK, F.M. 310 AND OTHER APPURTENANCES</p>	
CHECKED BY:	<p align="center">BORING LAYOUT</p>	
SUBMITTED BY:	<p align="center">INV. NO. DACW63-60-B-0085 DATED: AUG. 1960</p>	
ENGINEER:	<p align="center">CONTR. NO. DAC WGS-61-C-0035</p>	
	DRAWING NUMBER	SHEET NO.
		OF
		102



8.



TO ACCOMPANY FINAL FO



U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

AQUILLA LAKE
AQUILLA CREEK, TEXAS

EMBANKMENT

GEOLOGIC PROFILE
(EMBANKMENT - SECTION A-A)

DESIGNED BY:

DRAWN BY:

CHECKED BY:

SUBMITTED BY:

ENGINEER:

INV. NO. DACW63-80-B-0085

DATED: AUG. 1980

CONTR. NO. DACW63-81-C-0033

SEQUENCE NO.

DRAWING NUMBER

SHEET NO.

OF

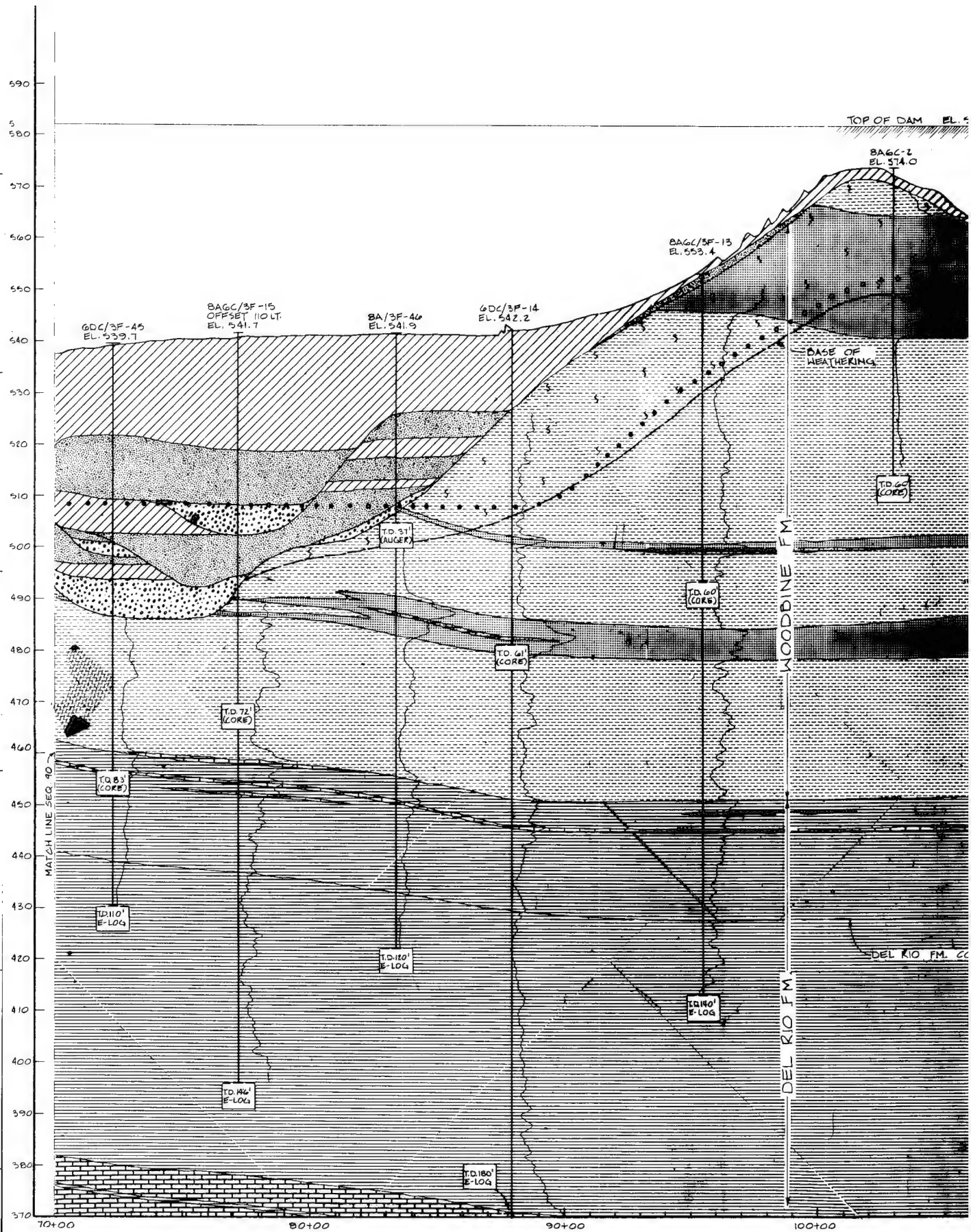
103

TO ACCOMPANY FINAL FOUNDATION REPORT

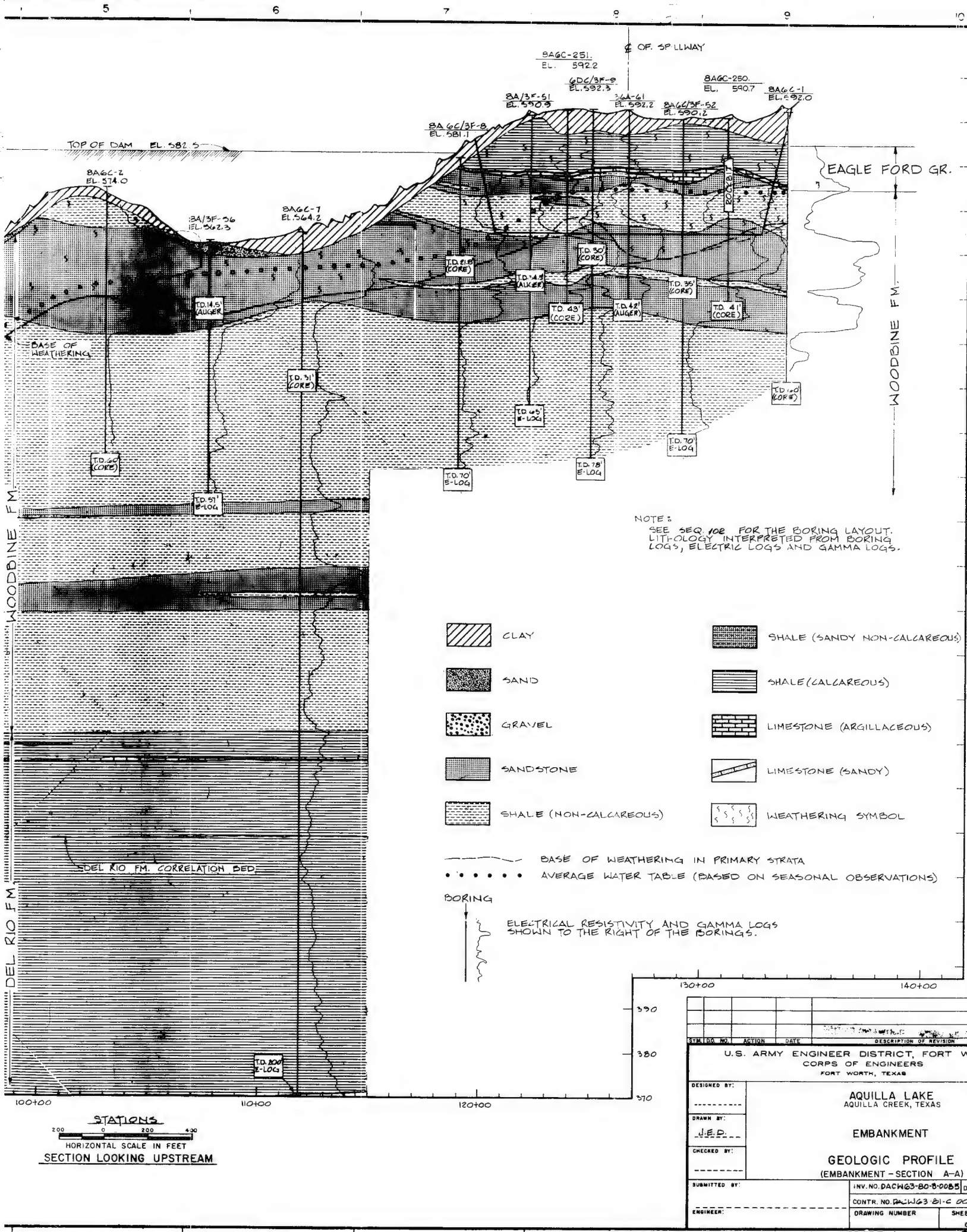
PLATE 3

DACW63-81-C-0033

G
F
E
D
C
B
A



STATIONS
200 0 200
HORIZONTAL SCALE IN
SECTION LOOKING UP



G
F
E
D
C
B
A

ELEVATION IN FEET M.S.L.



DEL RIO FM. → ← WOODBRINE FM.

HACKBERRY CREEK

NOTE:
SEE SEQUENCE 511 & THE
BORING LAYOUT

BA-37
EL. 523.4

TD 25
(AUGER)

BA6C/3F-36
EL. 537.2

TD 75
(CORE)

TD 95
F-LOG

36A-60
EL. 538.5

TD 545
(AUGER)

BA6C/3F-44
EL. 538.0

TD 75
(CORE)

TD 100
E-LOG

BA6C/3F-66
OFF-SET 100 W. OF Δ
EL. 538.4

TD 55
(CORE)

TD 75
F-LOG

BA6C/3F-35
EL. 532.9

TD 100
(CORE)

DEL RIO FM. CORRELATION
MARKER BED

Δ
OF
THE
PIER
STATION 12+62.25

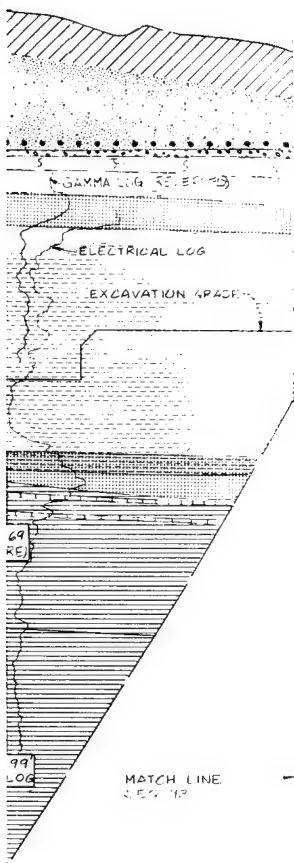
HIGHWAY 310

0+00 2+00 4+00 16+00 18+00 10+00 12+00 14+00

STATIONS

SECTION LOOKING TOWARD LEFT ABUTMENT

TREAM

MATCHLINE
(STA 23+60)V3F-34
52.4.4

ELEVATION IN FEET M.S.L.

LITHOLOGIC SYMBOLS:

ADDITIONAL LITHOLOGIC SYMBOLS APPLICABLE
TO THIS SHEET.
SEE SEQUENCE 11 FOR OTHER SYMBOLS USED



CLAY (NON-SANDY TO SLIGHTLY SANDY)

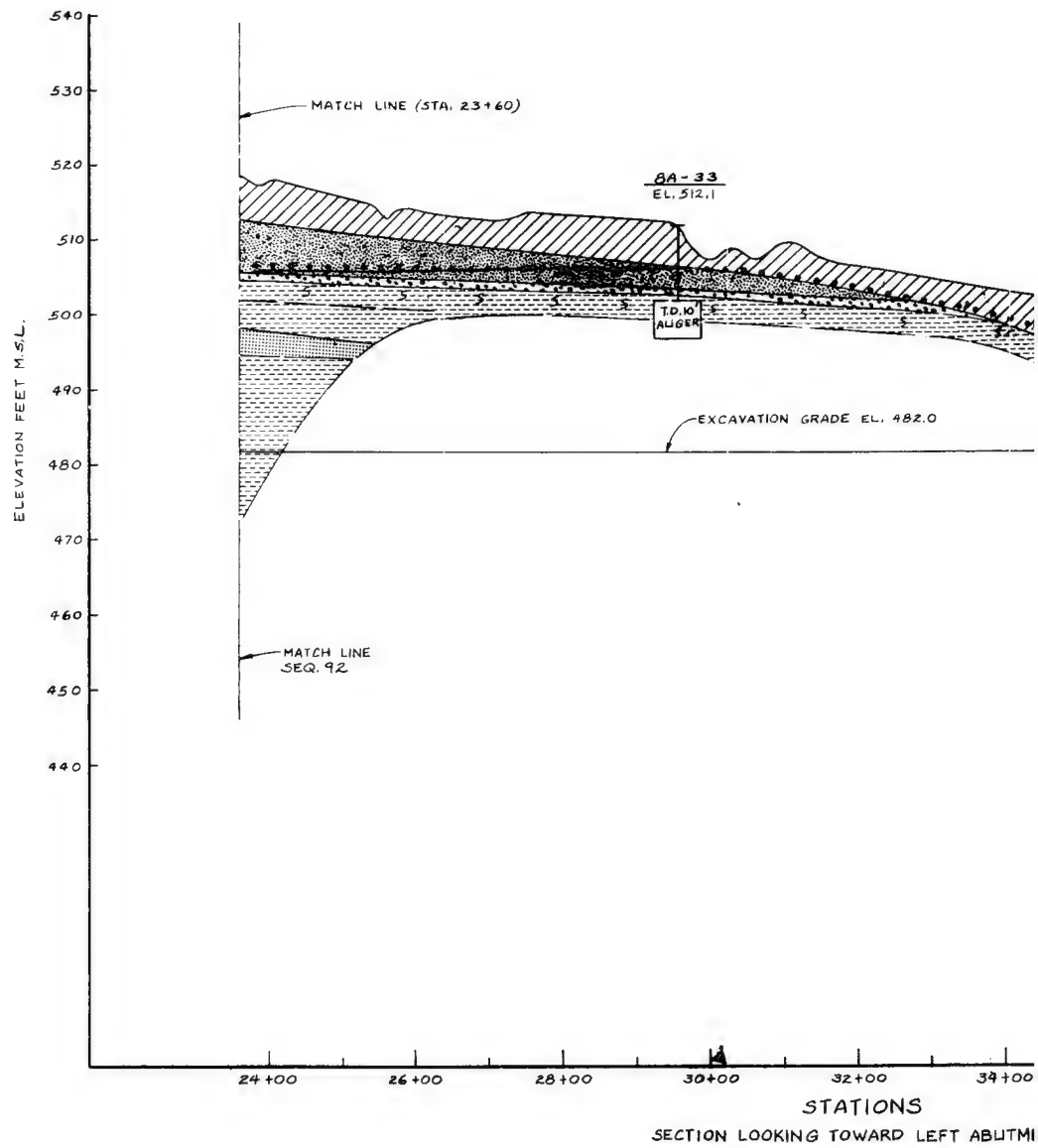
CLAY (SANDY TO VERY SANDY OR INTERBEDDED
CLAY AND SAND)SAND (FINE TO INTERBEDDED SAND
AND GRAVEL)

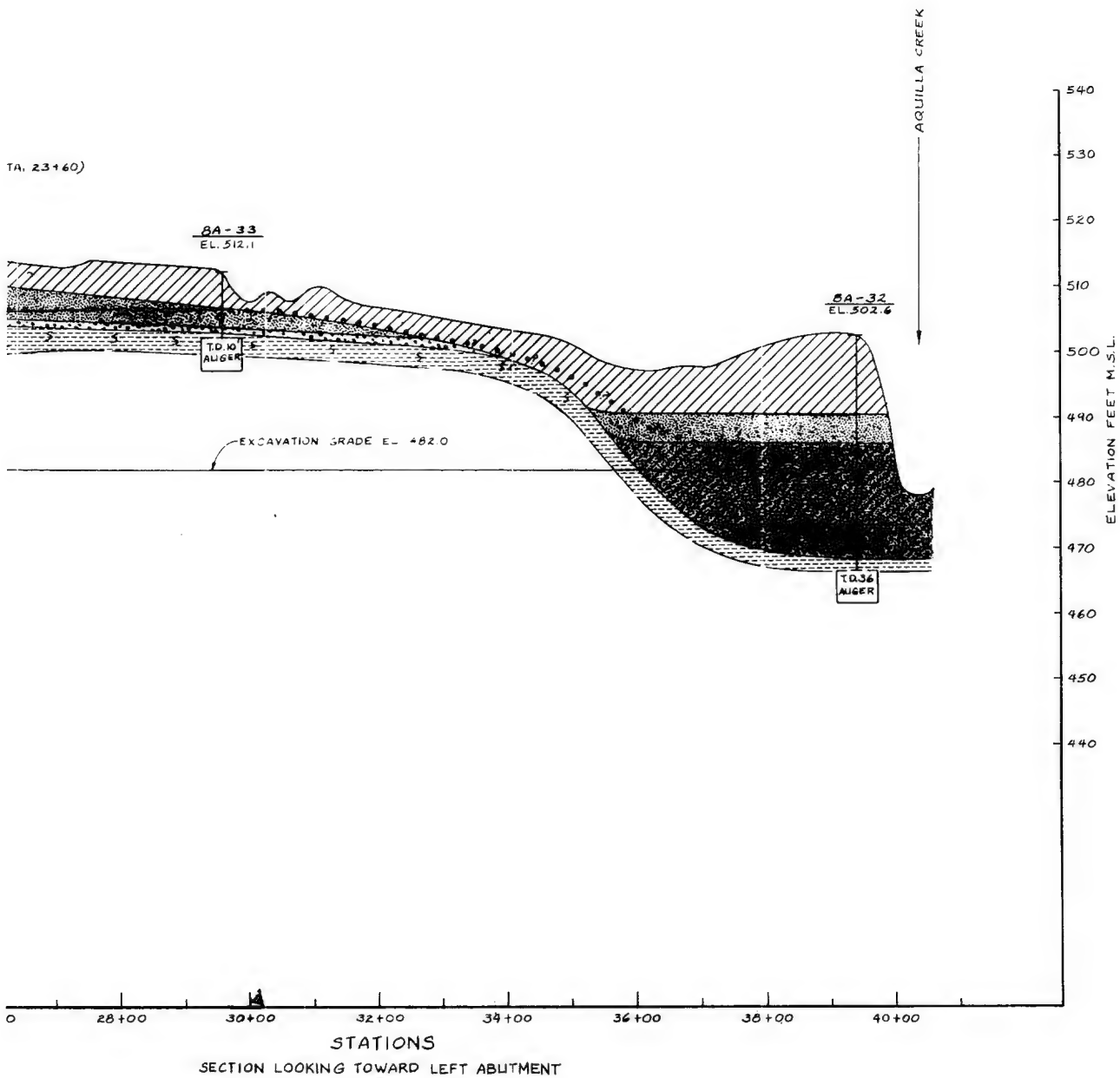
0+00 22+00

SYM. NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	N. L. N.		
CHECKED BY:	GEOLOGIC PROFILE		
SUBMITTED BY:	OUTLET WORKS SECTION B-B		
ENGINEER:	INV. NO. D4CWA63-75-4-0048	DATED: MARCH 1915	SEQUENCE NO. 92
	CONTR. NO. 163	DRAWING NUMBER	SHEET NO. 92
		OF	

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 5





LITH

ADDITIONAL LITHOLOGICAL
SEE SEQUENCE 91 FOR

CLAY (NON)

CLAY (SANDY)

SAND (GRAVELLY)

NOTE:
SEE SEQUENCE 69 FOR THE BORING LAYOUT

DESIGNED BY:	
DRAWN BY:	N.L.M.
CHECKED BY:	
SUBMITTED BY:	
ENGINEER:	

AQUILLA CREEK



540
530
520
510
500
490
480
470
460
450
440

ELEVATION FEET M.S.L.

LITHOLOGIC SYMBOLS

ADDITIONAL LITHOLOGIC SYMBOLS APPLICABLE TO THIS SHEET
SEE SEQUENCE 91 FOR OTHER SYMBOLS USED.



CLAY (NON-SANDY TO SLIGHTLY SANDY).



CLAY (SANDY TO VERY SANDY, OR INTERBEDDED
CLAY AND SAND).



SAND (GRAVELLY OR INTERBEDDED SAND AND GRAVEL).

RECEIVED

FOR THE BORING LAYOUT

SYM. NO.		ACTION		DATE		DESCRIPTION OF REVISION	
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS							
DESIGNED BY:		AQUILLA LAKE AQUILLA CREEK, TEXAS					
DRAWN BY:		GEOLOGIC PROFILE					
CHECKED BY:		OUTLET WORKS SECTION B-B					
SUBMITTED BY:		INV. NO. DACW63-78-8-0042		DATED: MARCH, 1979		SEQUENCE NO.	
ENGINEER:		CONTR. NO. ACW63-78-8-0042		SHEET NO.		93	

G

F

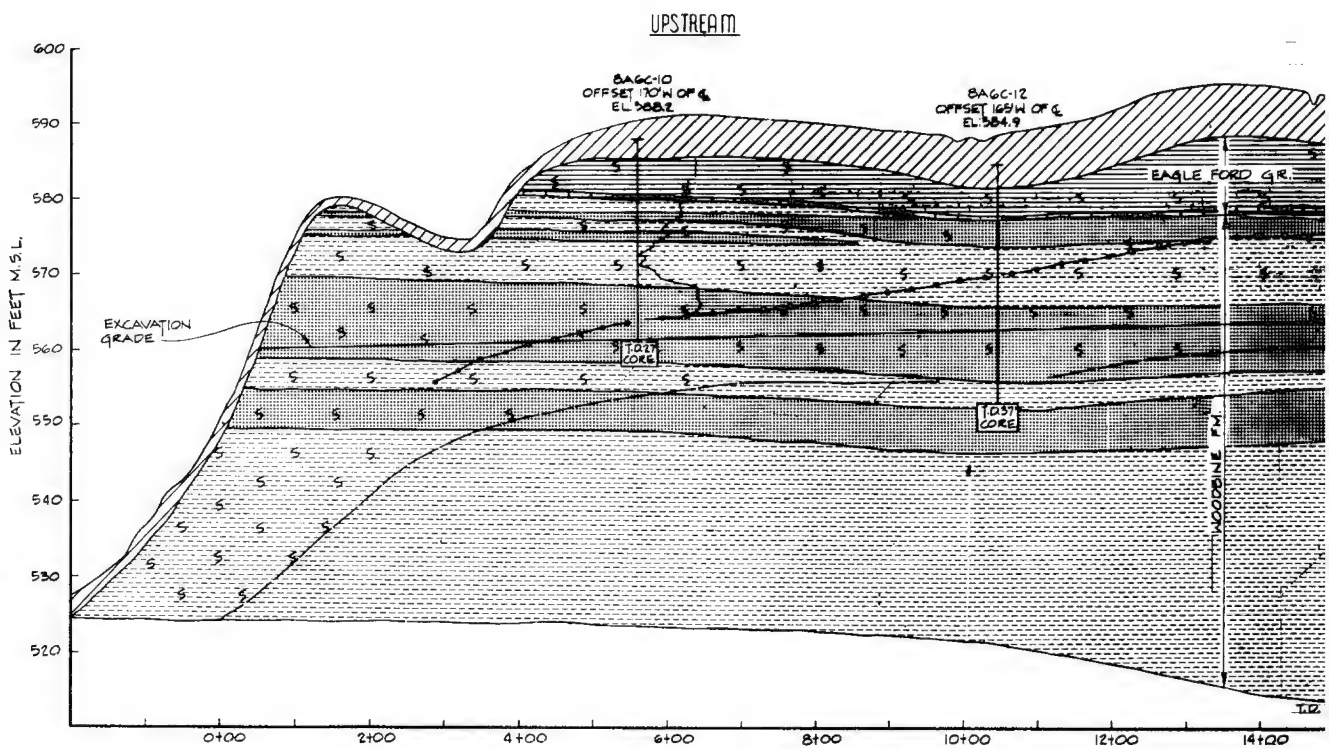
E

D

C

B

A

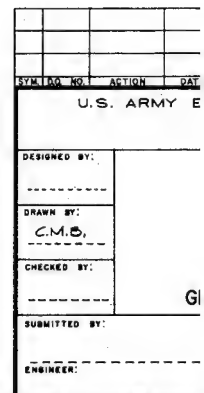


- NOTES:
1. THICKNESS OF OVERBURDEN PENETRATED BY OFFSET BORINGS BAGC-10 AND BAGC-12 IS ADJUSTED TO THE GROUND SURFACE IN THE LINE OF SECTION.
 2. SEE SEQ. 102 FOR THE BORING LAYOUT AND SEQ. 104 FOR LITHOLOGIC SYMBOLS.

SECTION LOOKING 1

200 0

HORIZ



G

F

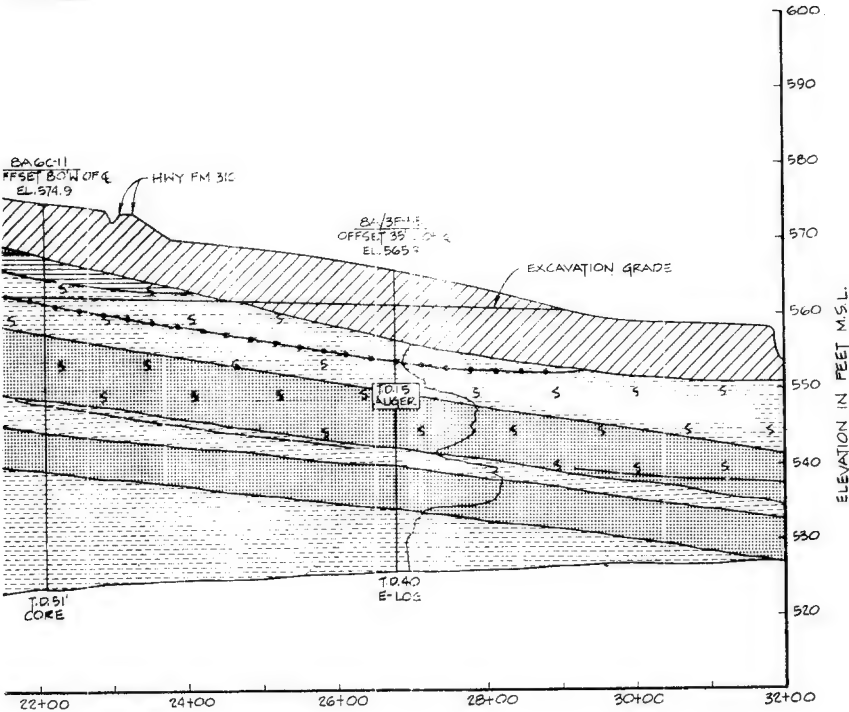
E

D

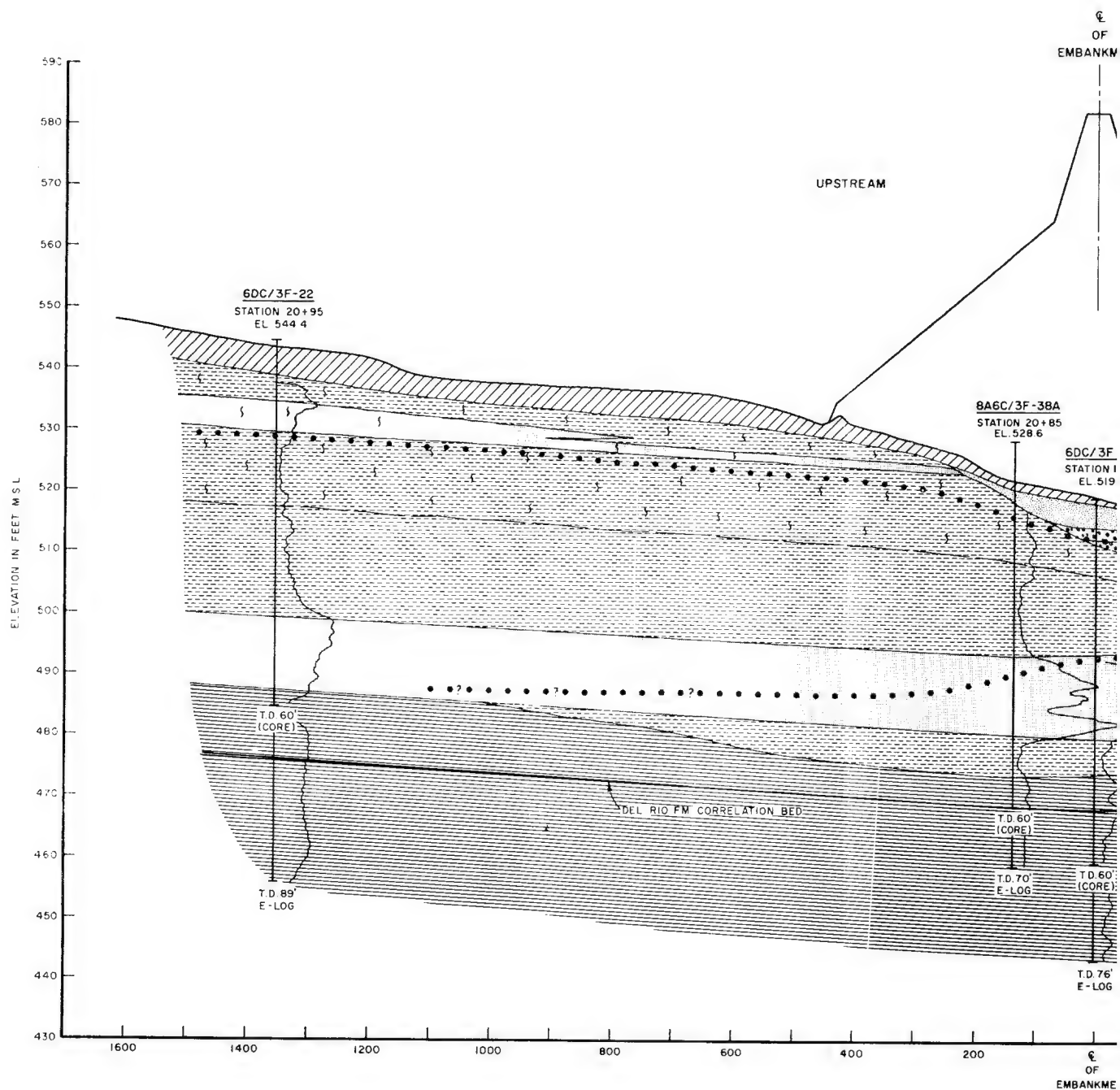
C

B

NSTREAM



SYN. NO.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS				
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS			
DRAWN BY:	C.M.B.			
CHECKED BY:	GEOLOGIC PROFILE SECTION C-C			
SUBMITTED BY:	INV. NO. DACWG3-80-B-0085		DATED: AUG. 1980	
ENGINEER:	CONTR. NO. DACW63-81-C-0035		SEQUENCE NO.	
	DRAWING NUMBER		SHEET NO. 105	
			OF	



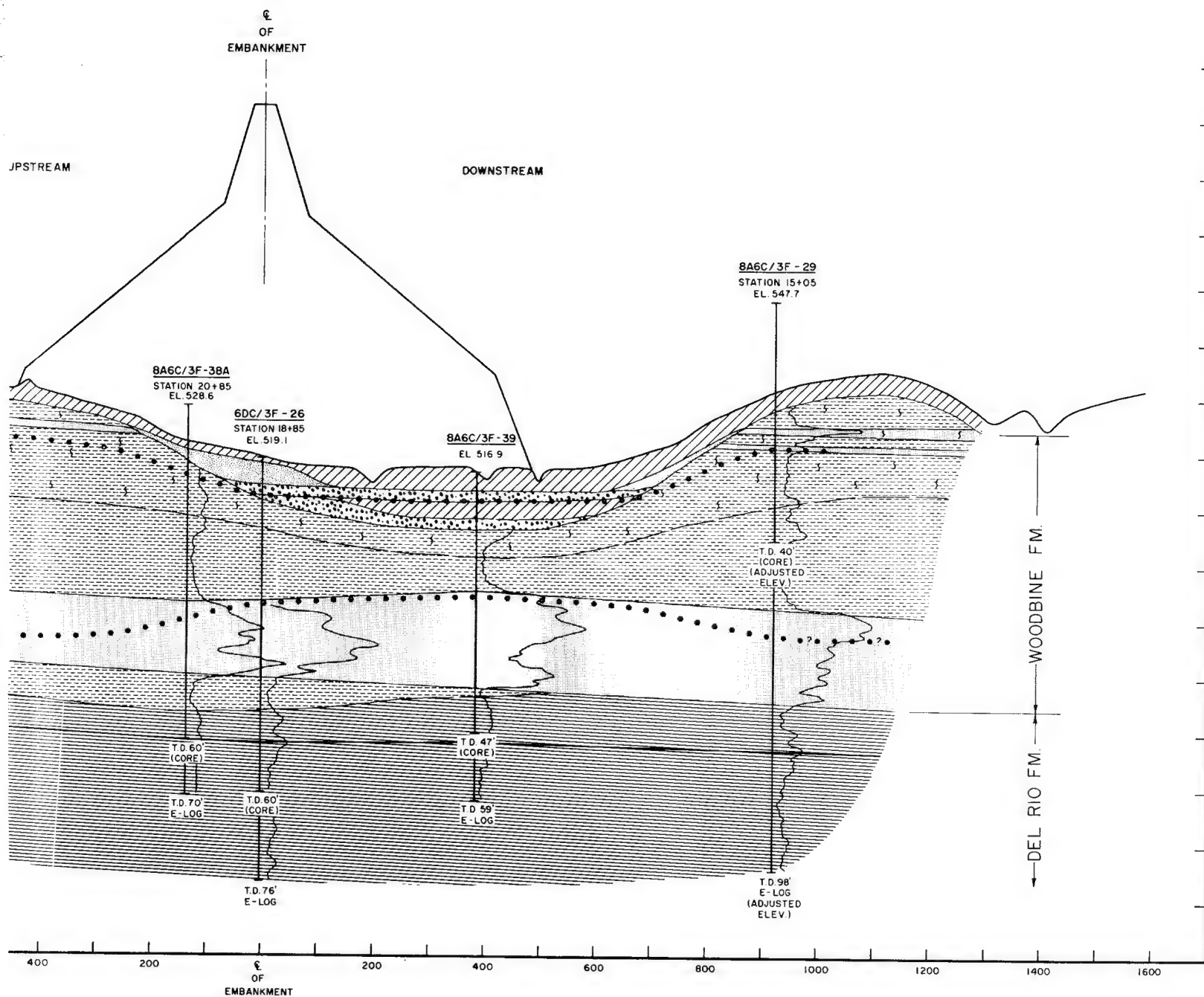
NOTES:

- (1) PRIMARY STRATA SHOWN AT BORING 8A6C/3F-29 ARE DISPLACED DOWNWARD 3 FEET FROM THEIR ELEVATION IN THE BORING AS COMPENSATION FOR FORMATIONAL DIP. OVERBURDEN THICKNESS, AS SHOWN AT THIS BORING, IS ESTIMATED.
- (2) PRIMARY STRATA IN BORING 6DC 3F-22 AND 8A6C 3F-38A ARE AT APPROXIMATELY THE SAME ELEVATION IN THE LINE OF SECTION.
- (3) SEE SEQ. 89 FOR THE BORING LAYOUT AND SEQ. 91 FOR LITHOLOGIC SYMBOLS.

DISTANCE FROM EMBANKMENT
IN FEET

HORIZONTAL SCALE

SECTION LOOKING TOWARD



DISTANCE FROM EMBANKMENT CENTERLINE
IN FEET

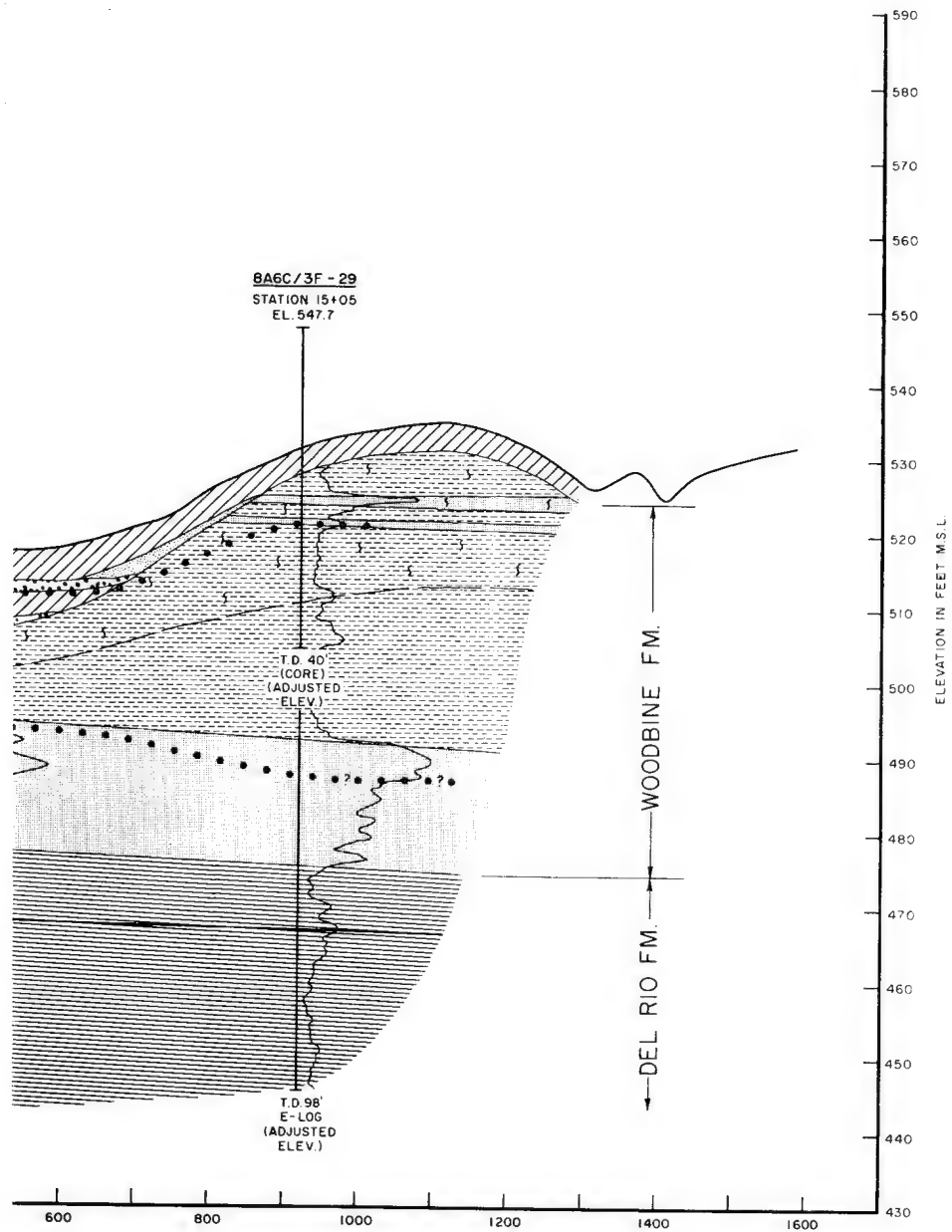


SECTION LOOKING TOWARD LEFT ABUTMENT

RECORD DRAWING - WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILL		
CHECKED BY:	GEOLOGIC PROFILE SECTION ON STA. 19+10 D-D		
SUBMITTED BY:	INV. NO. DACW63-78-8-004		
ENGINEER:	CONTR. NO. W63 78-C		
			DRAWING NUMBER

TO ACCOMPANY FINAL FOUNDATION REPORT



RECORD DRAWING - WORK AS BUILT

SYM. NO.	ACTION	DATE	DESCRIPTION OF REVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: _____

DRAWN BY: _____

CHECKED BY: _____

SUBMITTED BY: _____

ENGINEER: _____

AQUILLA LAKE
AQUILLA CREEK, TEXAS

EMBANKMENT AND SPILLWAY

GEOLOGIC PROFILE
SECTION ON STA. 19+10 D-D

INV. NO. DACW63-75-8-0042 DATED: MARCH 1976

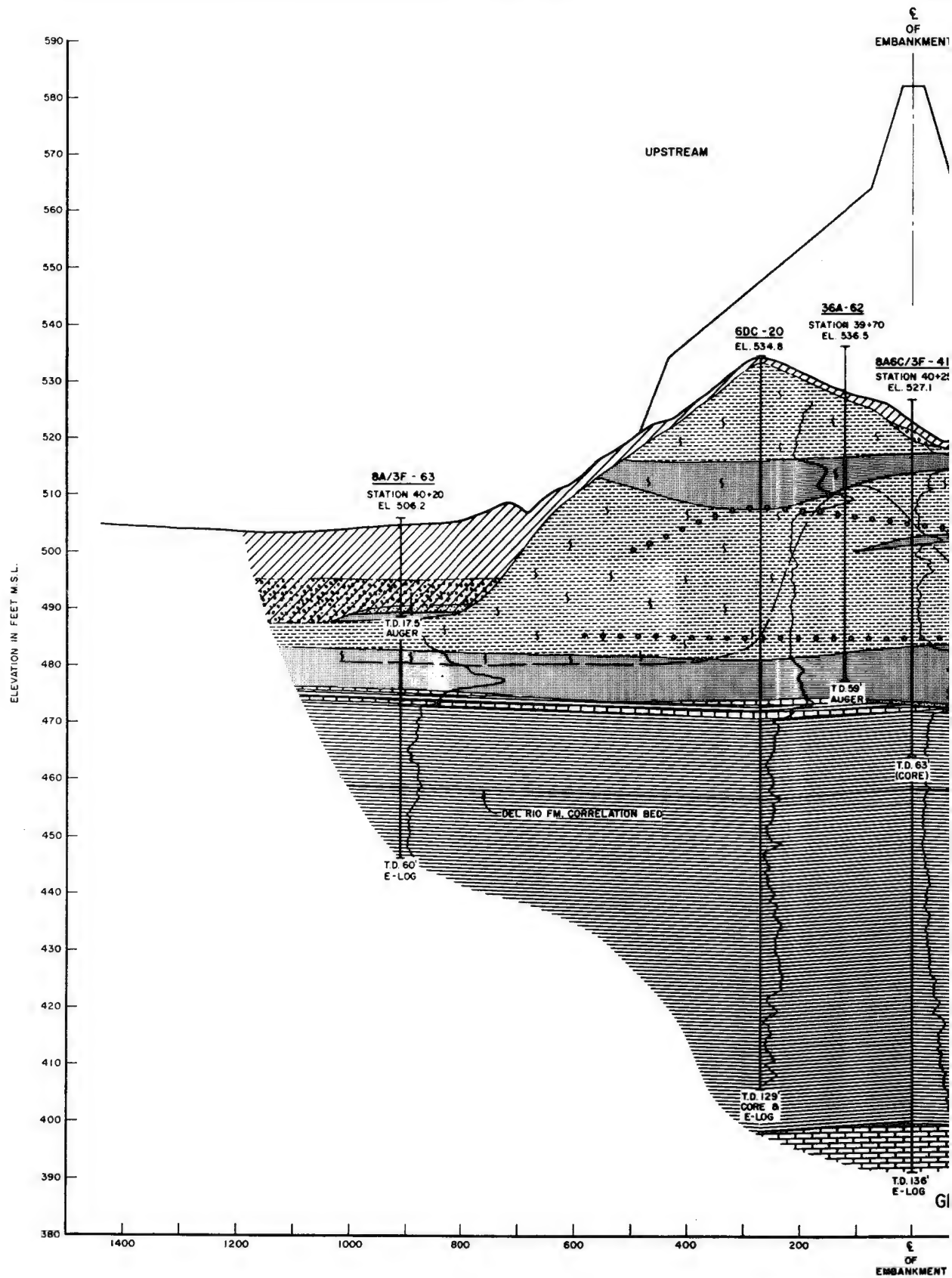
CONTR. NO. "DWG 78-C-0104" SEQUENCE NO. 95

DRAWING NUMBER SHEET NO. OF

CONTR. NO. "DWG 78-C-0104"

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 8



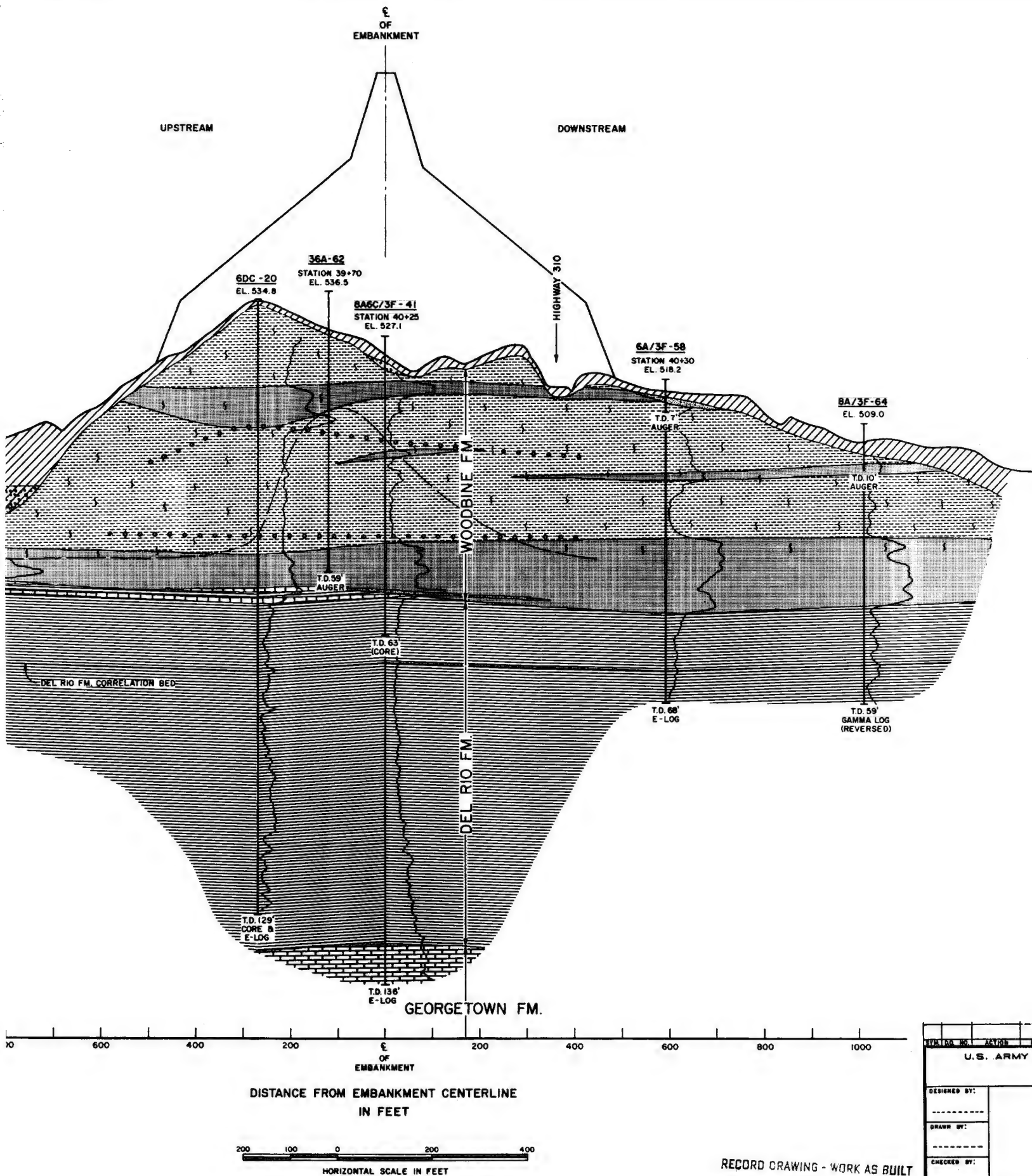
NOTES:

1. OVERBURDEN THICKNESS IS ESTIMATED FOR BORINGS AT ELEVATIONS ABOVE THE PROFILE.
2. DEPTH OF WEATHERING IN THE WOODBINE FORMATION IS ESTIMATED DOWNSTREAM FROM BORING BA6C/3F-41.
3. SEE SEQ. 89 FOR THE BORING LAYOUT AND SEQ. 91 FOR LITHOLOGIC SYMBOLS.

200 100 0

HORIZONTAL SCALE

SECTION LOOKING TOWARD



SECTION LOOKING TOWARD LEFT ABUTMENT

RECORD DRAWING - WORK AS BUILT

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SUBMITTED BY:	
ENGINEER:	

TO ACCOMPANY FINAL FOUR

590
580
570
560
550
540
530
520
510
500
490
480
470
460
450
440
430
420
410
400
390

ELEVATION IN FEET M.S.L.

8A/3F-64
EL 509.0

T.D. 10'
AUGER

T.D. 59'
GAMMA LOG
(REVERSED)

0 800 1000

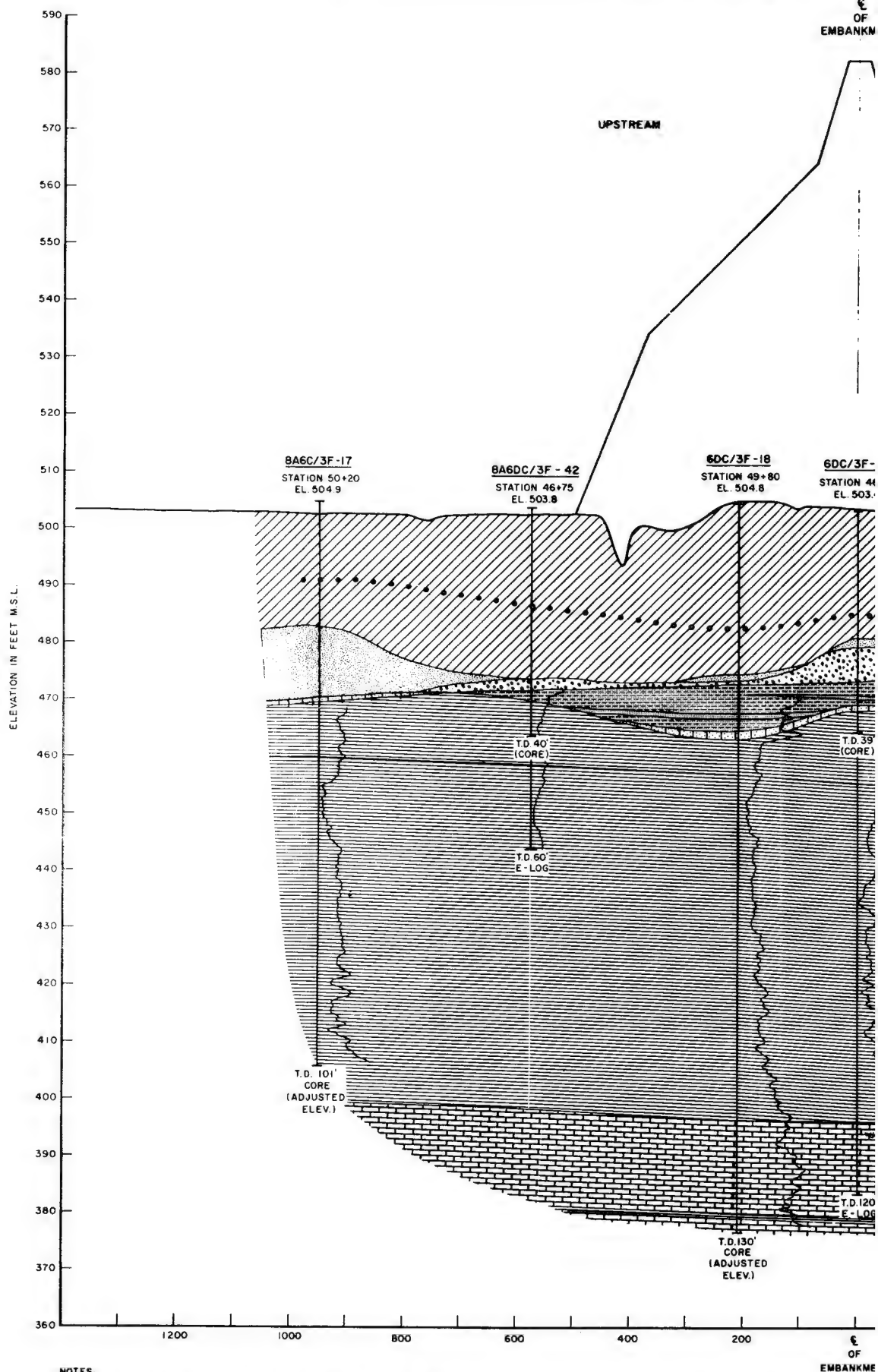
RECORD DRAWING - WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
<p align="center">U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS</p>			
DESIGNED BY:	<p align="center">AQUILLA LAKE AQUILLA CREEK, TEXAS</p>		
DRAWN BY:	<p align="center">EMBANKMENT AND SPILLWAY</p>		
CHECKED BY:	<p align="center">GEOLOGIC PROFILE SECTION ON STA. 40+60 E-E</p>		
SUBMITTED BY:	INV. NO. DACW 78-5-0042	DATED: MARCH, 1978	
ENGINEER:	CONTR. NO. DAW 78-C-0104	SEQUENCE NO.	
	DRAWING NUMBER	SHEET NO.	96
		OF	

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 9

DRAWING 78-C-0104

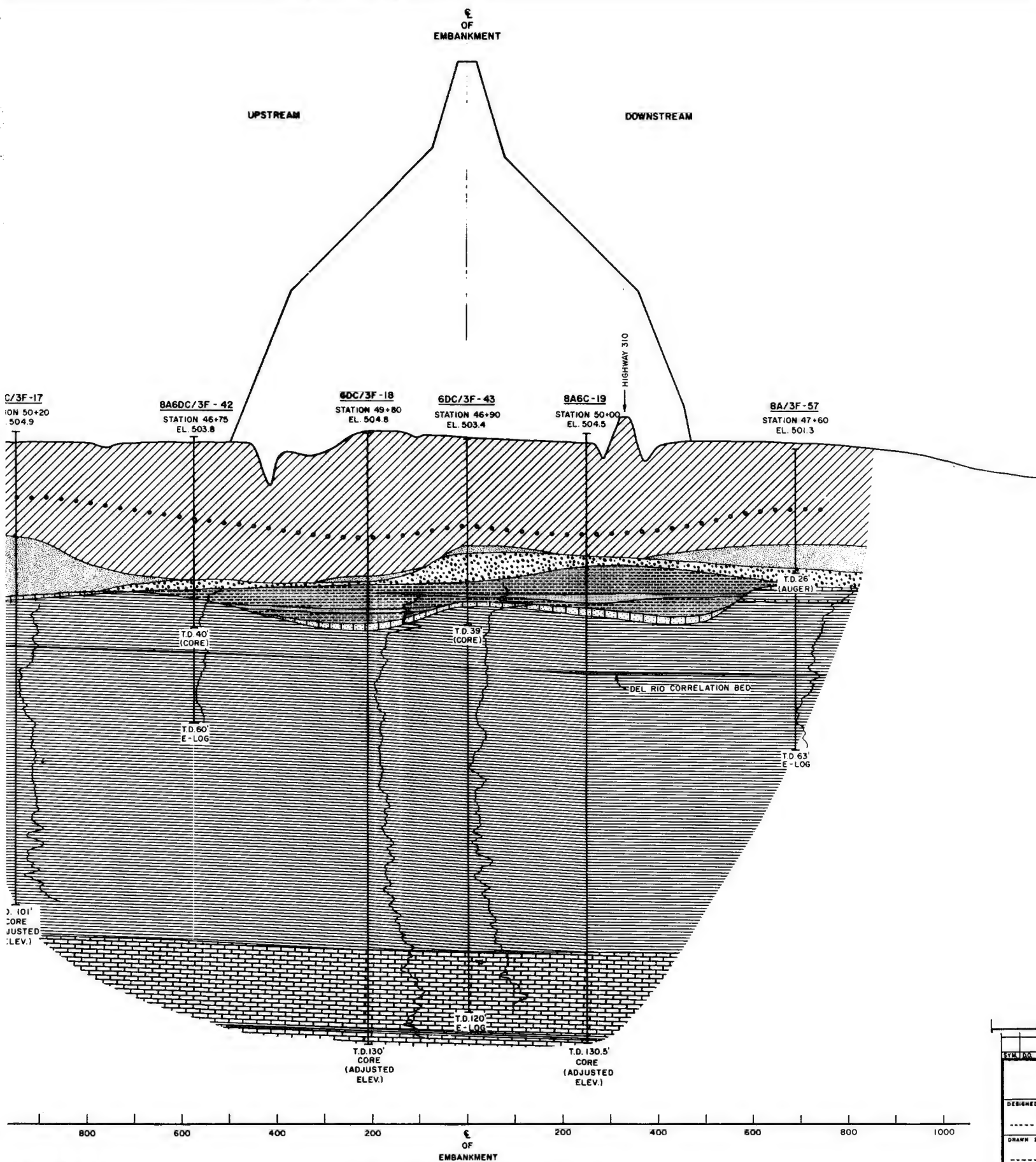


NOTES

1. PRIMARY STRATA SHOWN AT BORINGS 8A6C/3F-17 AND 6DC/3F-18 ARE DISPLACED UPWARD 2 FEET AND THOSE SHOWN AT BORING 8A6C-19 ARE DISPLACED UPWARD 3 FEET AS COMPENSATION FOR FORMATIONAL DIP.
2. SEE SEQ. 89 FOR THE BORING LAYOUT AND SEQ. 91 FOR LITHOLOGIC SYMBOLS.

DISTANCE FROM EMBANKMENT
IN FEET

SECTION LOOKING TOWARD



3F-17 AND 6DC/3F-18
SE SHOWN AT BORING
AS COMPENSATION FOR

SECTION LOOKING TOWARD LEFT ABUTMENT

RECORD DRAWING - WORK AS BUILT

TO ACCOMPANY

DESIGNED	ESTIM. INC.
CHECKED	
DRAWN	
SUBMITTED	
ENGINEER	

ELEVATION IN FEET M.S.L.

8A/3F-57
STATION 47+60
EL. 501.3

T.D. 26
(AUGER)

T.D. 63'
E-LOG

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	GEOLOGIC PROFILE		
SUBMITTED BY:	SECTION ON STA. 47+20 F-F		
ENGINEER:	INV. NO. DACW 63-78-B-0042	DATED: MARCH 1978	SEQUENCE NO.
	CONTR. NO. DACW 63 78-C-0104		
	DRAWING NUMBER	SHEET NO.	97
		OF	

RECORD DRAWING - WORK AS BUILT

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 10

A

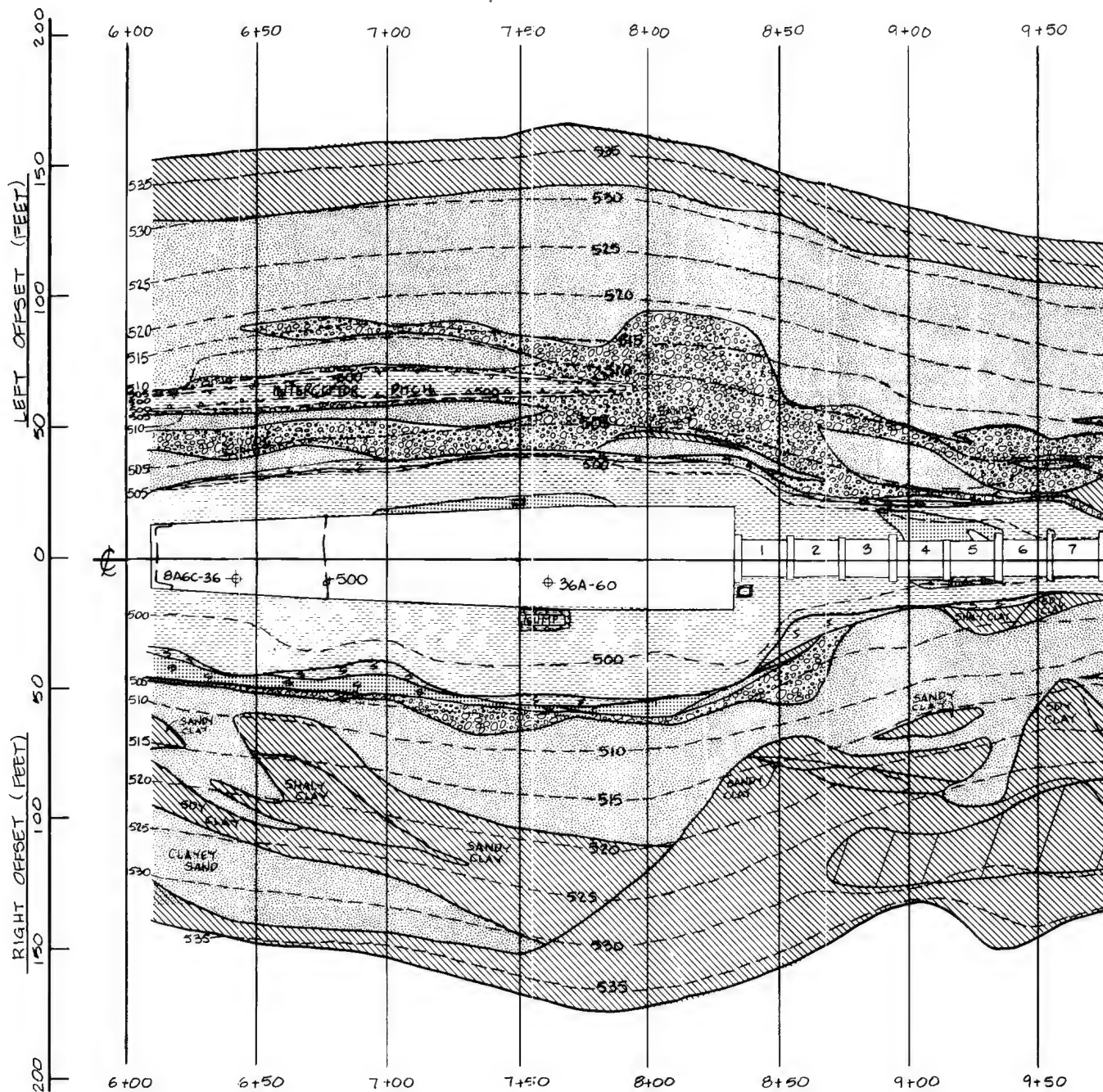
B

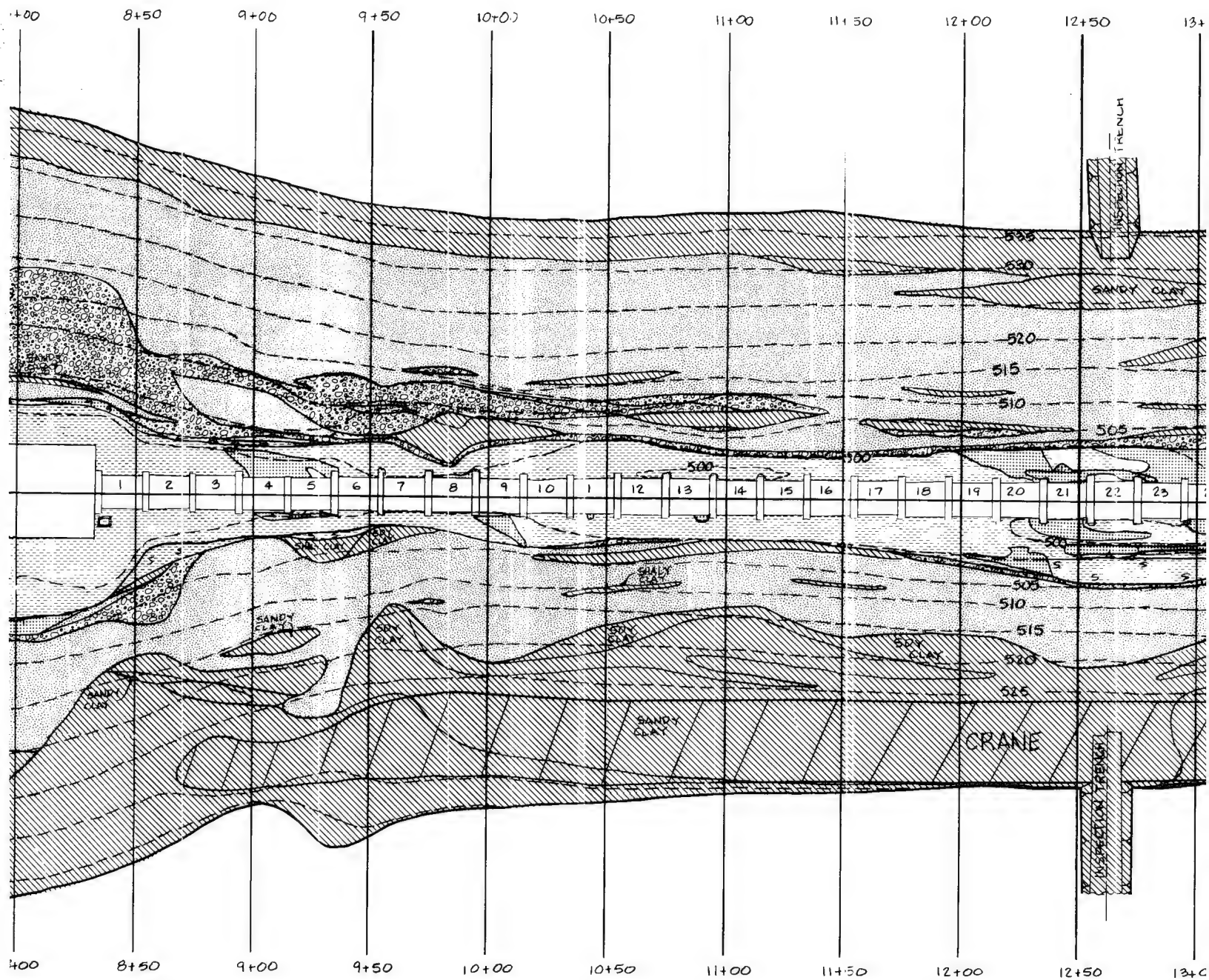
C

D

E

F

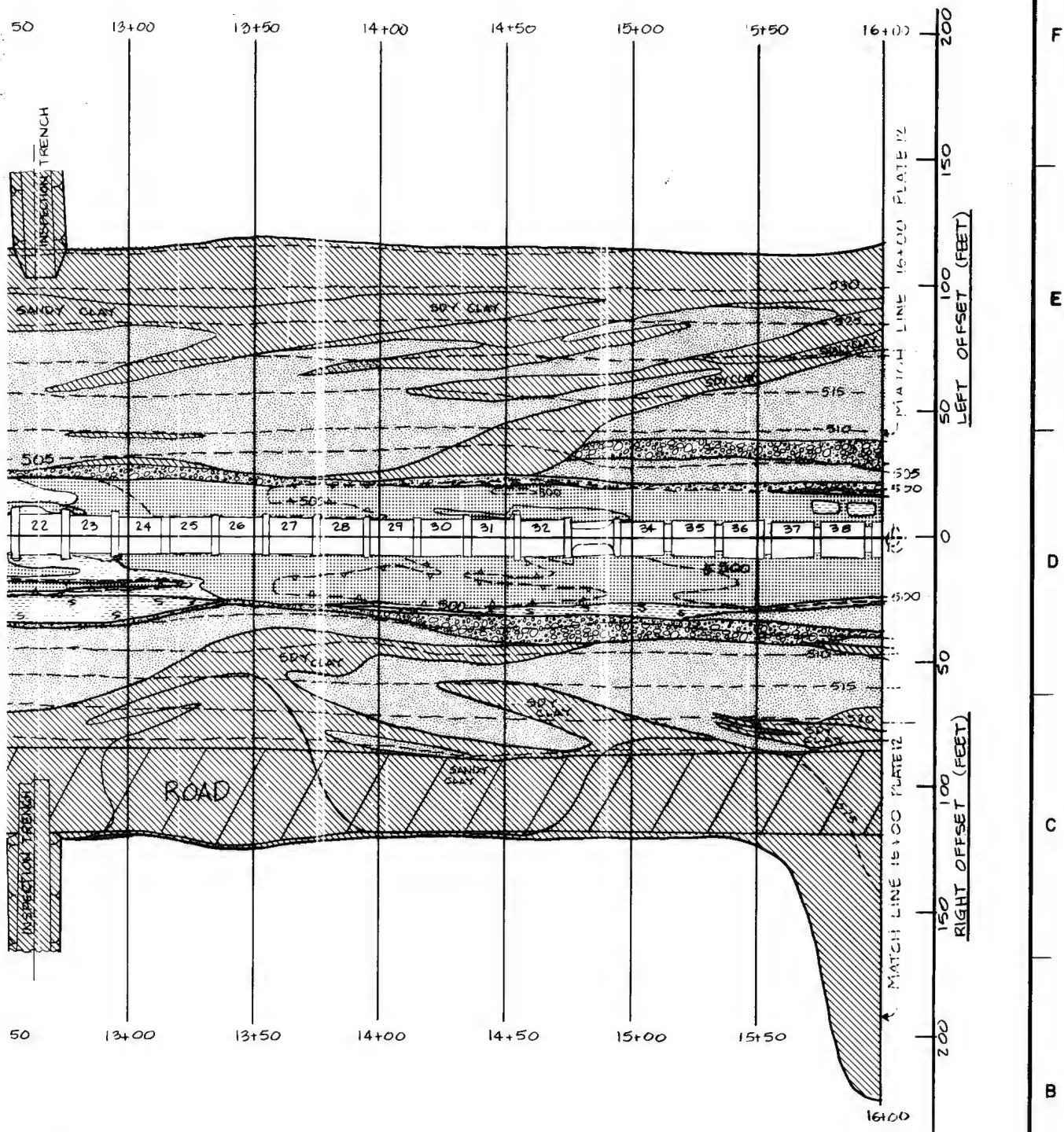




MAP SYMBOLS:

- FR STEEPLY DIP
- CLAY, SAND
- SAND, incl.
- GRAVEL
- SANDSTONE
- SHALE, WE
- SHALE, LIN

NOTE: THIN, RARE, 1
CLAY-IRONST



SYMBOLS:

- 1 STEEPLY DIPPING FRACTURE WITH SANDSTONE FILLING.
- 2 CLAY, SANDY CLAY & SHALT CLAY
- 3 SAND, incl. CLAYEY SAND
- 4 GRAVEL
- 5 SANDSTONE
- 6 SHALE, WEATHERED
- 7 SHALE, UNWEATHERED
- 8 THIN, RARE, LOCAL LAYERS OF CONCRETIONARY CLAY-IRONSTONE ARE NOT SHOWN HERE.

SYM.	DO. NO.	ACTION	DATE	DESCRIPTION OF REVISION

DESIGNED BY: <u>G. RUEPE</u>		U.S. ARMY ENGINEER (DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS)	
DRAWN BY: <u>C. KIRBY</u>		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT OUTLET WORKS GEOLOGY AND EXCAVATION STA. 6+10.25 TO STA. 16+00.00	
REVIEWED BY: <u>R. BEHM</u>			
SUBMITTED BY: <u>ROBERT BEHM</u>		INVITATION NO.	DATE:
ENGINEER:		CONTRACT NO.	SEQUENCE NO.
DRAWING NUMBER		SHEET NO.	OF

F

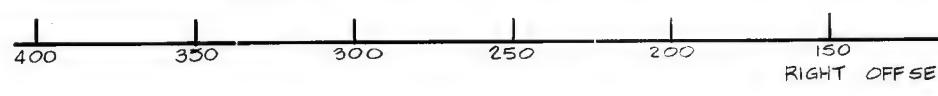
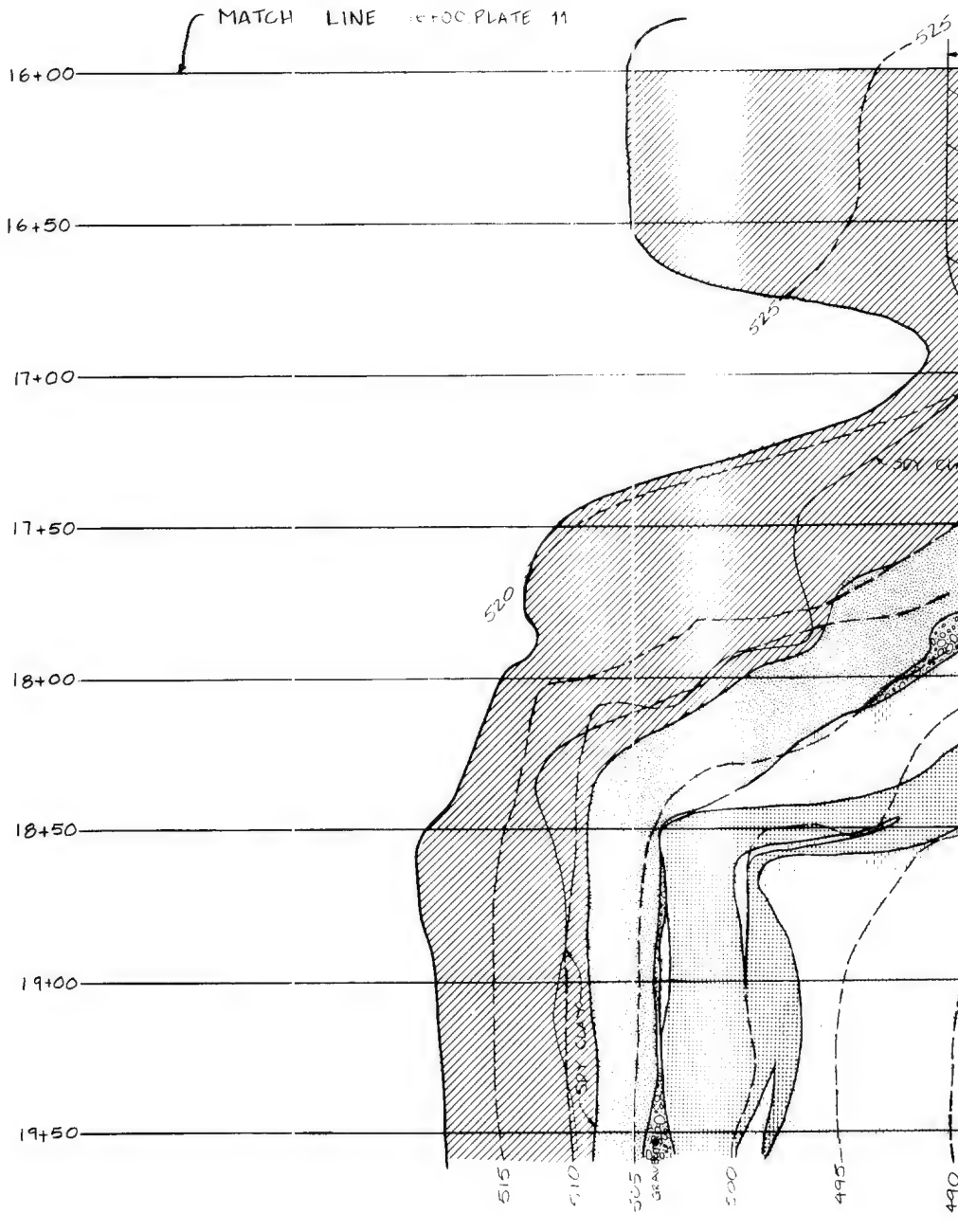
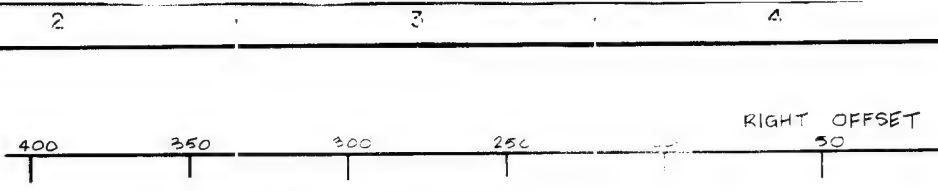
E

D

C

B

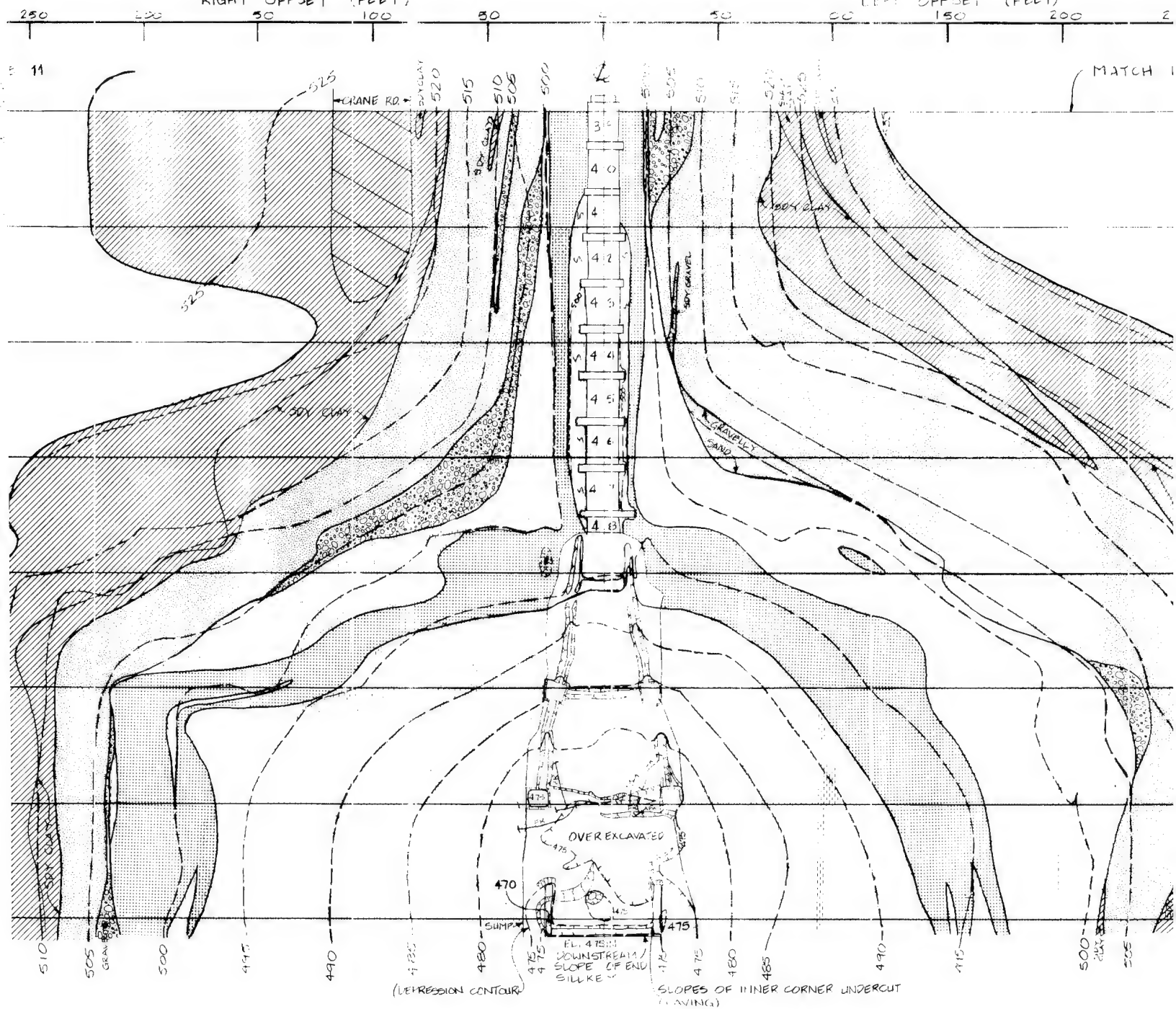
A



POLYTRACE 033

RIGHT OFFSET (FEET)

LEFT OFFSET (FEET)



MAP SYMBOL

- ←FR→ STEEPLY DIP WITH SANDSTONE
- CLAY, SDY CLAY
- SAND, incl. C
- GRAVEL
- SANDSTONE
- SHALE, WEATH
- SHALE, UNWEA

1

F

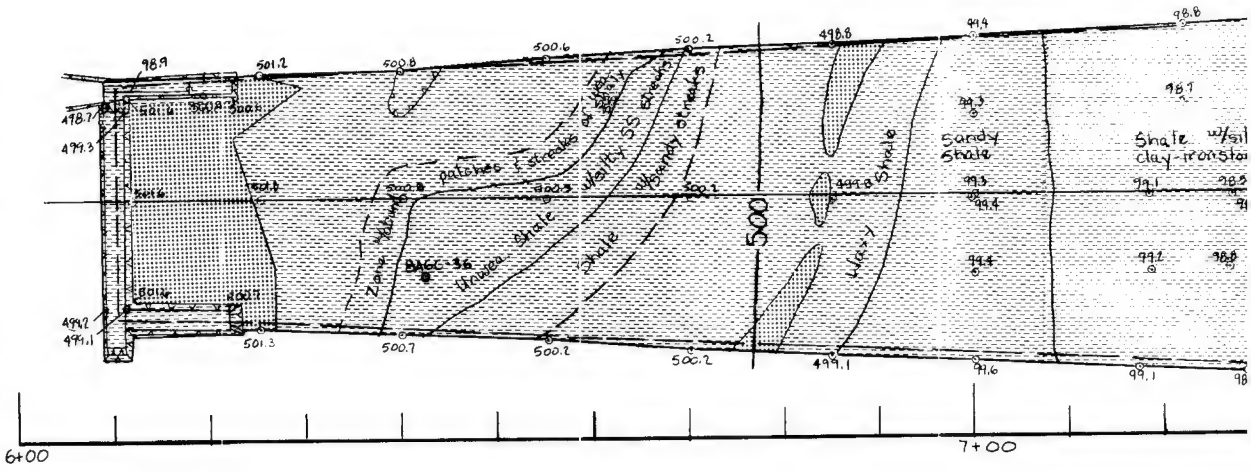
ELEVATION
502
500
498
496

APPROACH SLAB

E

LEFT OFFSET (FEET)
20
15
10
5
0
5
10
15
20

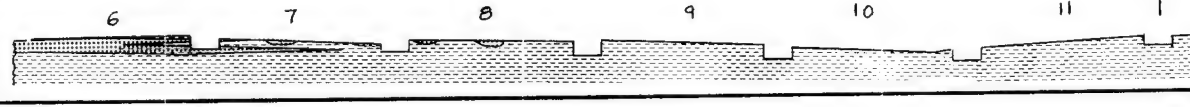
RIGHT OFFSET (FEET)
20
15
10
5
0
5
10
15
20



D

TYPE "A" CONDUIT

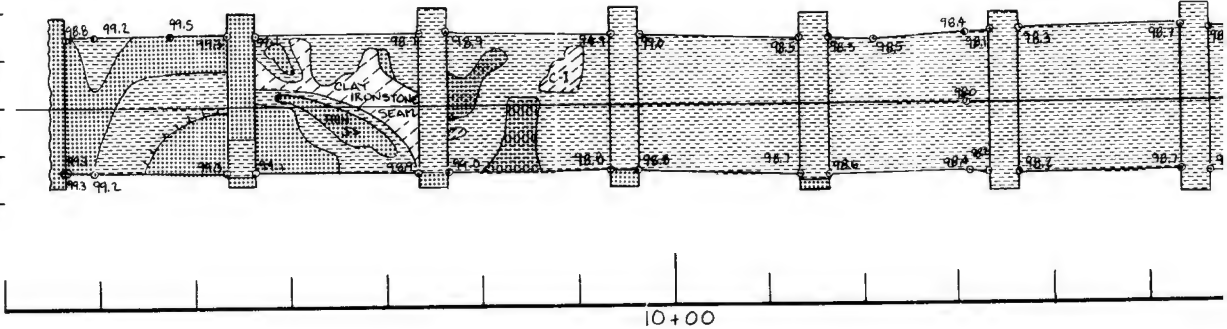
ELEVATION
502
500
498
496



C

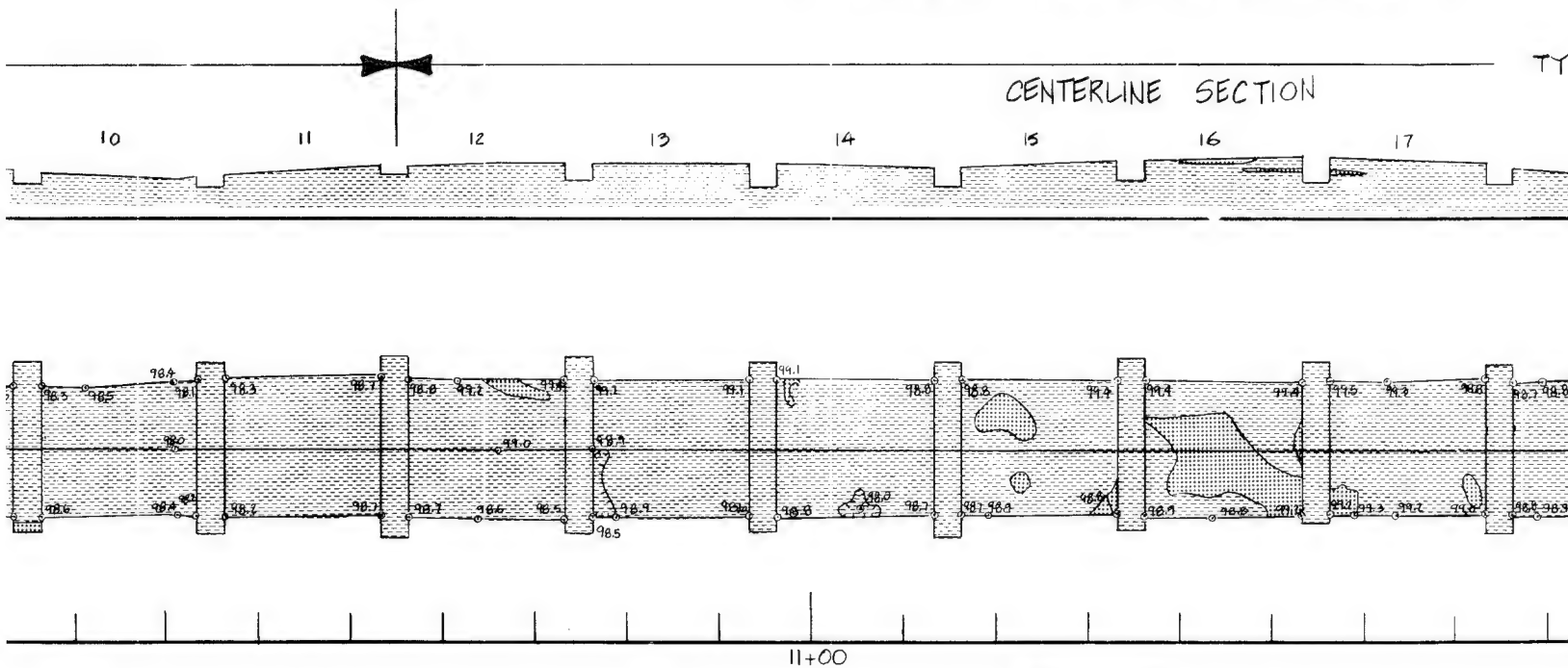
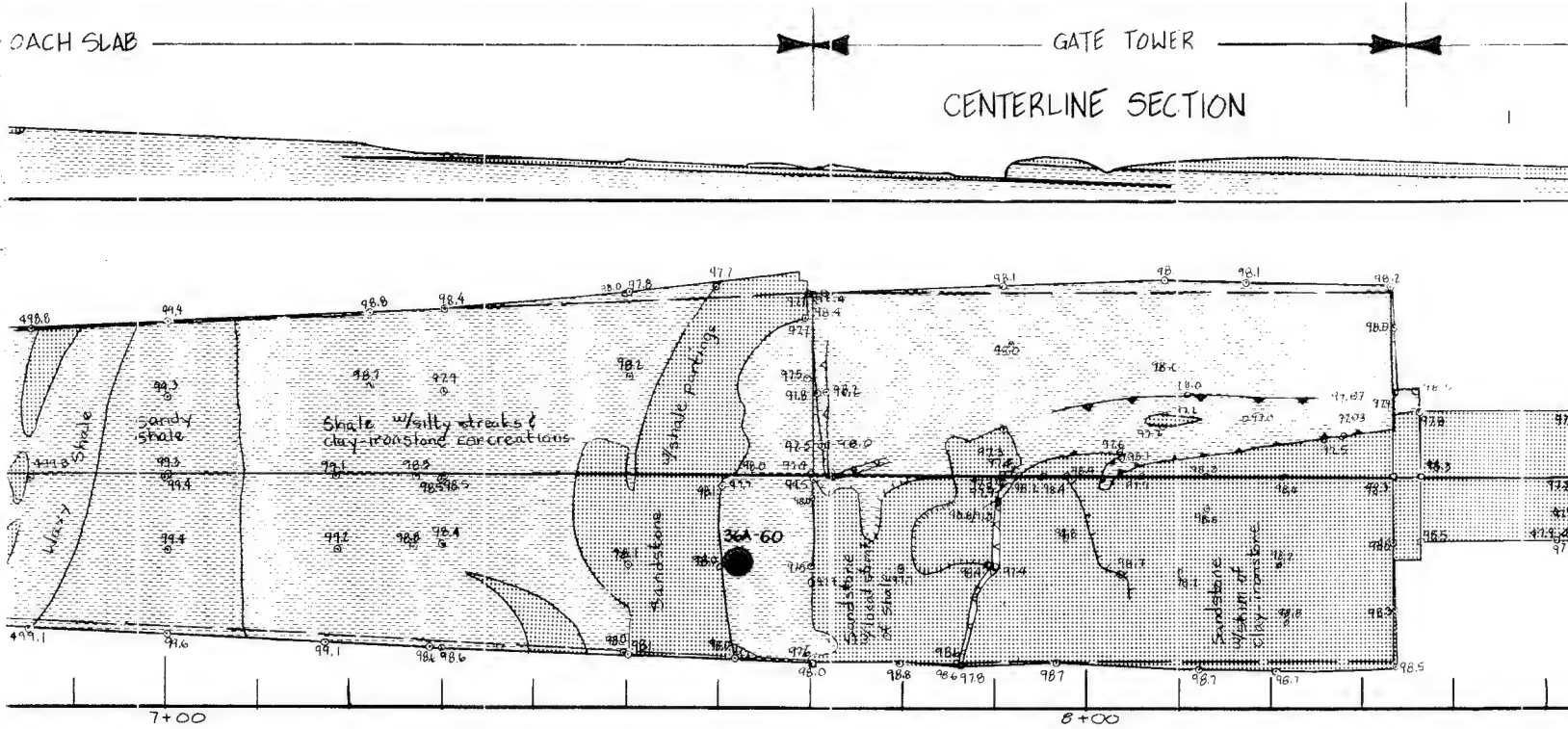
LT. % (FEET)
10
5
0
5
10

RT. % (FEET)
10
5
0
5
10

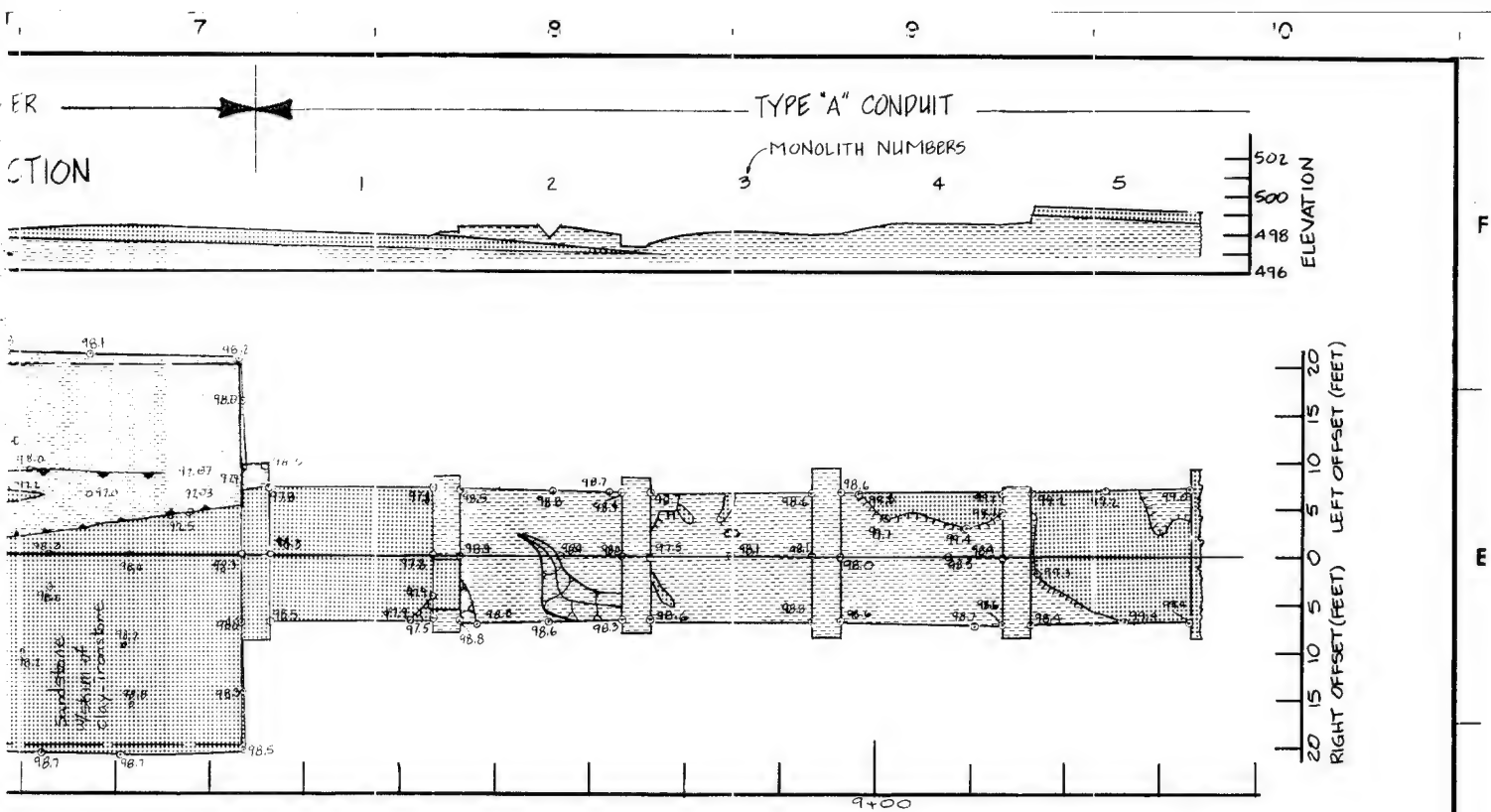


B

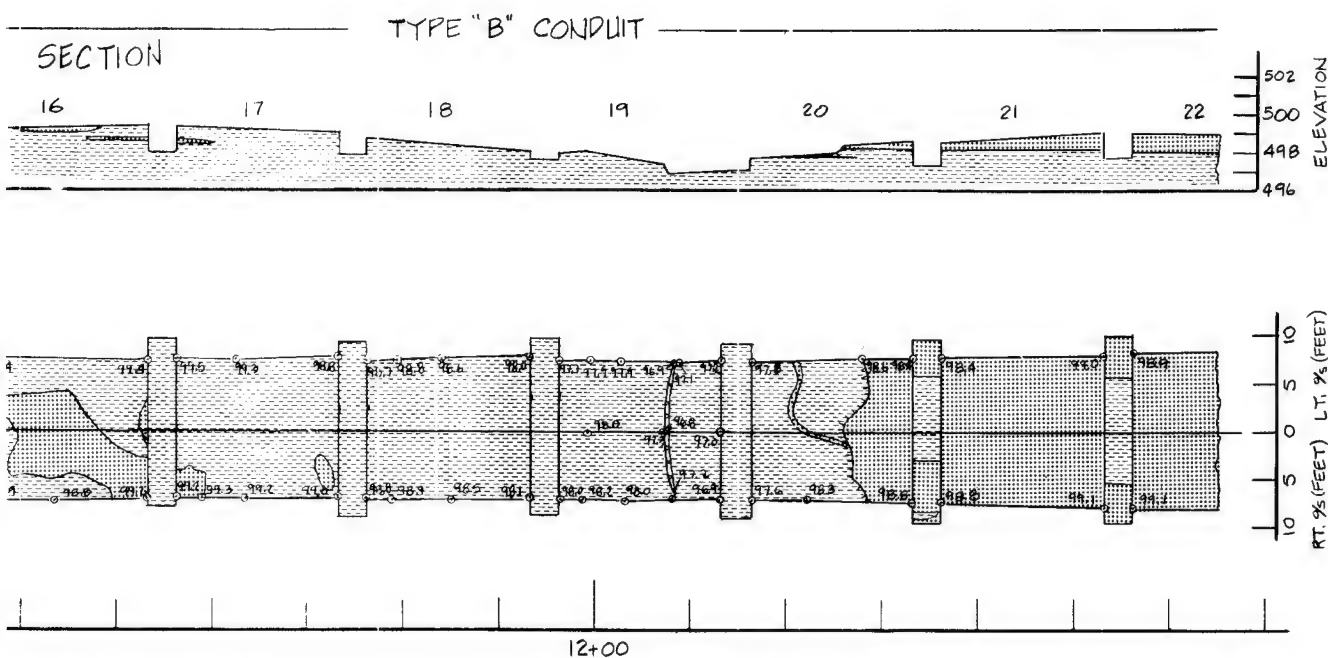
A



NOTE:
1. FOR PLAN VIEW MAP SYMBOLS, REF



OWER AND CONDUIT



UIT FOUNDATION

E:
FOR PLAN VIEW MAP SYMBOLS, REFER TO PLATE 15.

SYM.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
DESIGNED BY: <u>G. RUEDE</u>				U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS
DRAWN BY: <u>C. KIRBY</u>				
REVIEWED BY: <u>R. BEHM</u>				
SUBMITTED BY: <u>ROBERT BEHM</u>				INVESTIGATION NO.
ENGINEER:				DATE:
CONTRACT NO.				SEQUENCE NO.
DRAWING NUMBER				SHEET NO. OF

AQUILLA LAKE
AQUILLA AND HACKBERRY CREEKS, TEXAS
FINAL FOUNDATION REPORT
OUTLET WORKS STRUCTURES
GEOLOGY AND EXCAVATION
STA. 6+09.05 TO STA. 12+65.00

1

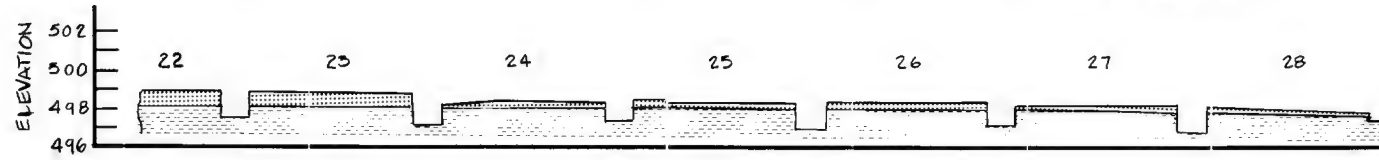
2

3

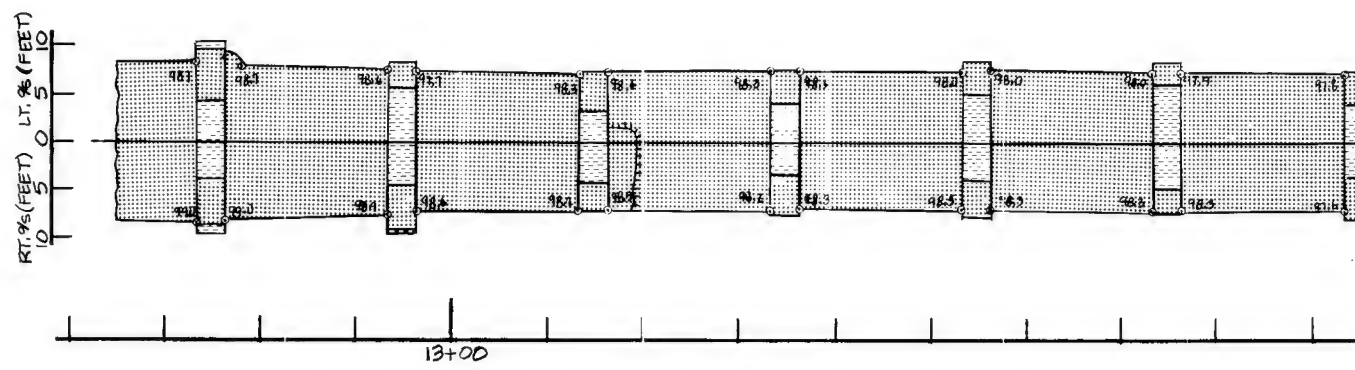
4

TYPE "B" CONDUIT

F

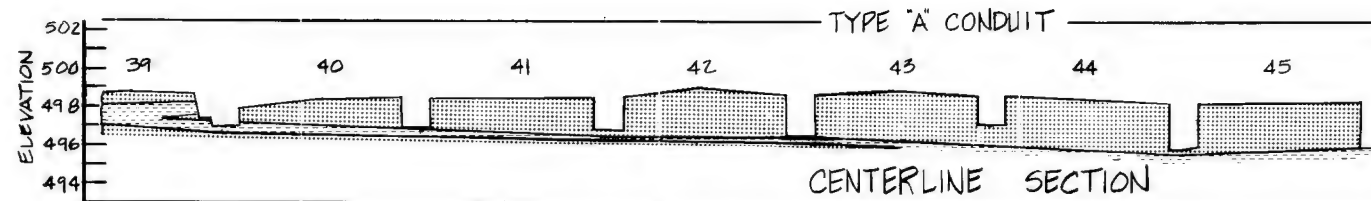


E

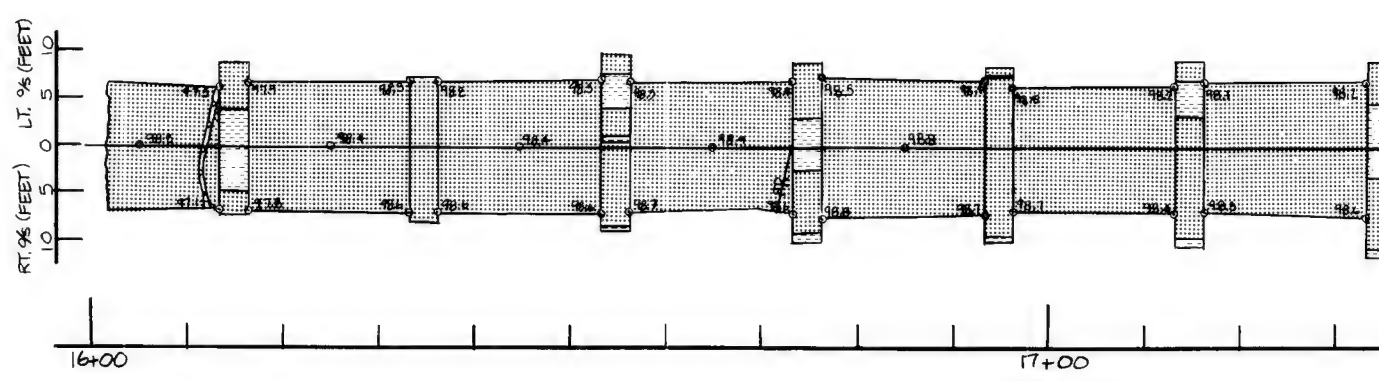


D

TYPE "A" CONDUIT



C



B

STATIONS
PLAN OF CONDUIT FOUNDATION

A

POLYTRAC 833

2

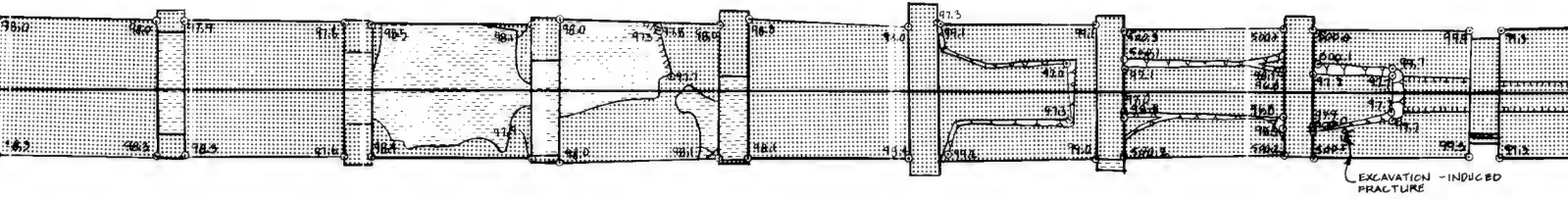
3

4

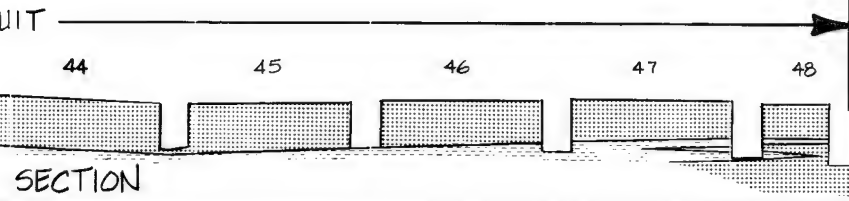
- TYPE "B" CONDUIT

CENTERLINE SECTION

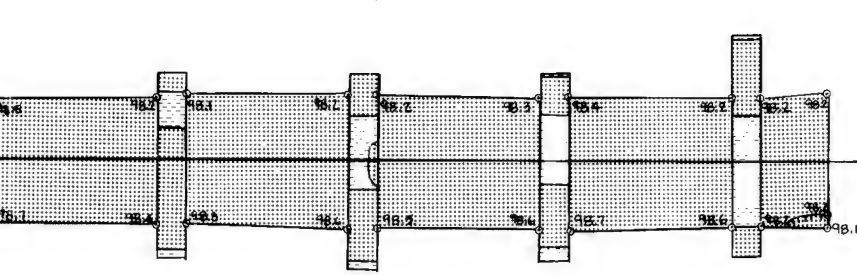
MONOLITH NUMBERS



STATIONS
PLAN OF CONDUIT FOUNDATION



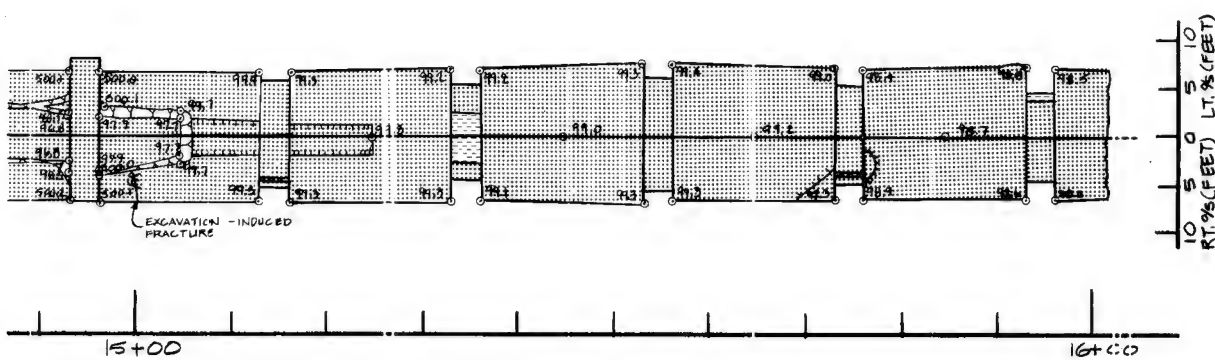
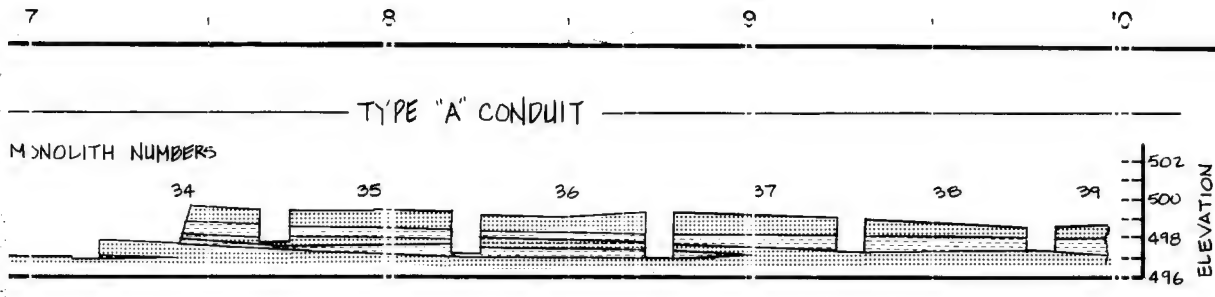
ELEVATION
502
500
498
496
494



LT. 9/8 (FEET)
15
10
5
0
5
10
15
RT. 9/8 (FEET)

STATIONS
CONDUIT FOUNDATION

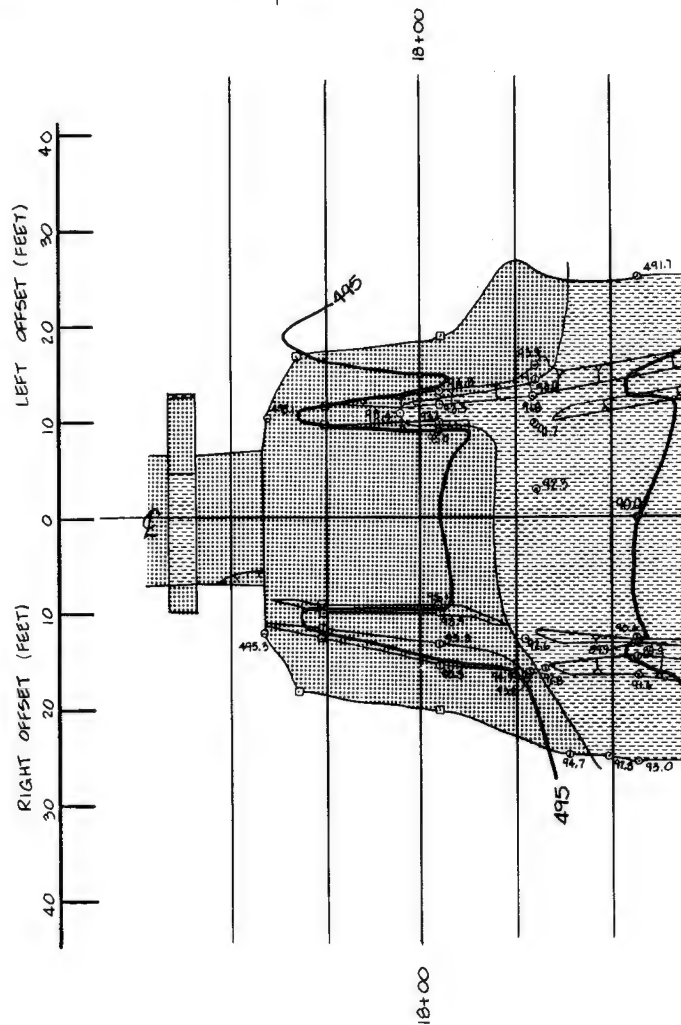
NOTE:
1. FOR PLAN VIEW MAP SYMBOLS, REFER TO PLATE 15.

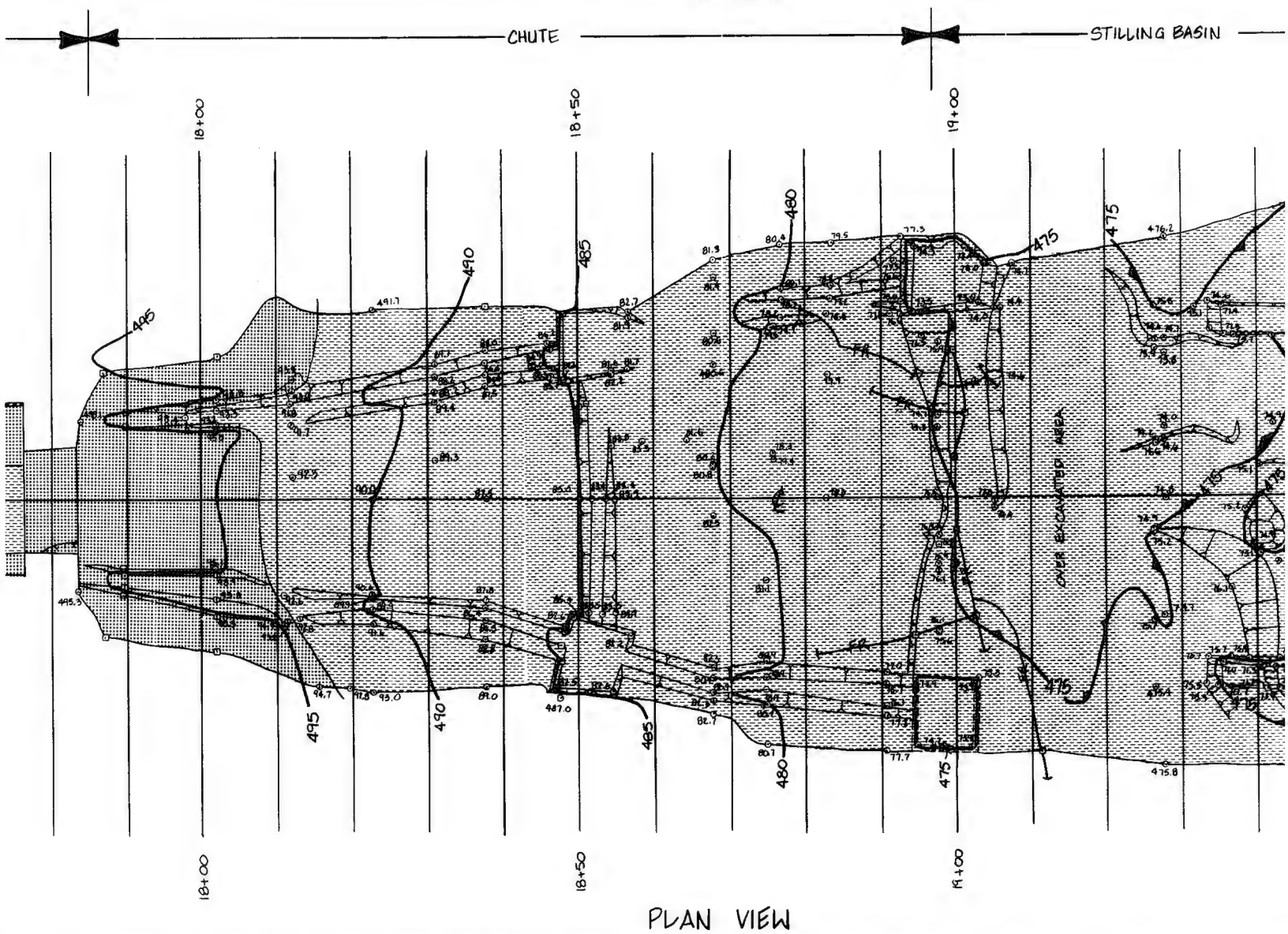
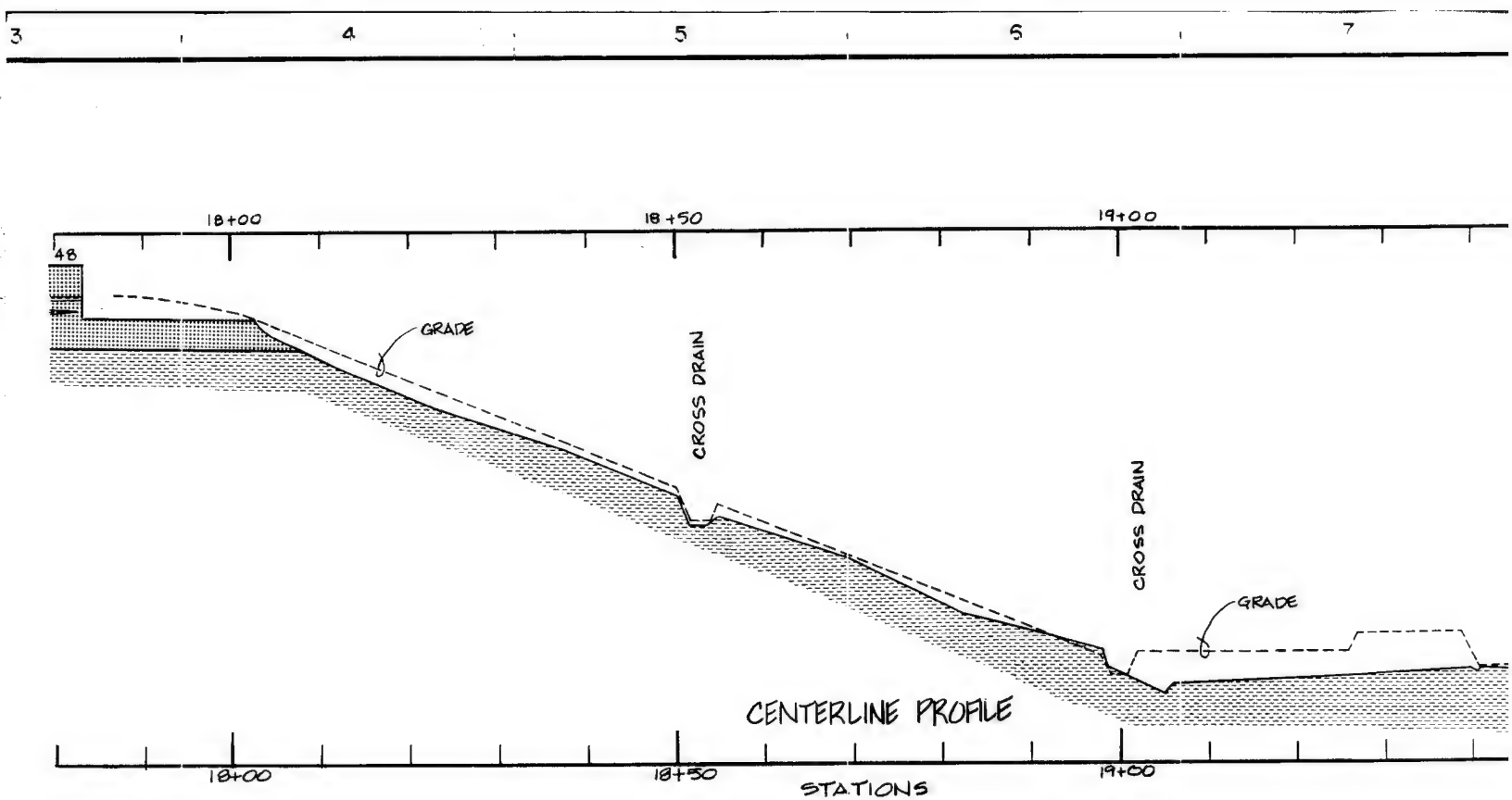


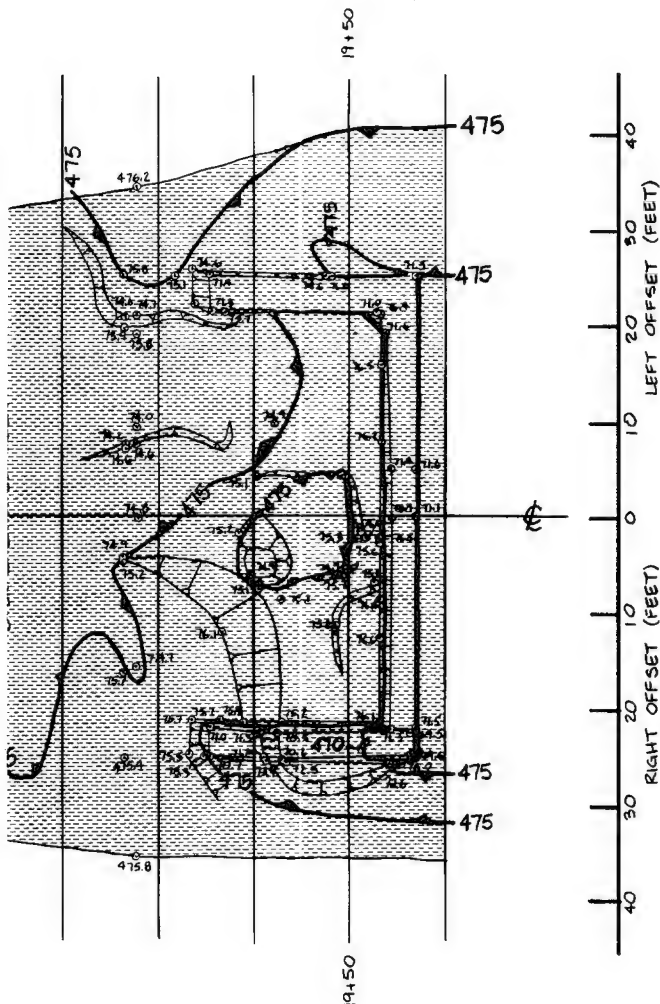
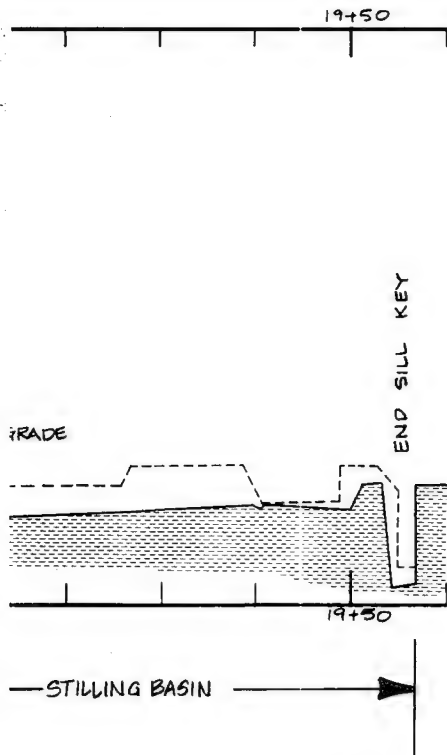
REFER TO PLATE 15.

SYM.	DD.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
					U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS
DESIGNED BY:	AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT OUTLET WORKS STRUCTURES GEOLOGY AND EXCAVATION STA. 12+65.00 TO STA. 17+83.25				
DRAWN BY:					
REVIEWED BY:					
ENGINEER:					
SUBMITTED BY:		INVITATION NO.		DATE:	
ROBERT BEHM		CONTRACT NO.		SEQUENCE NO.	
		DRAWING NUMBER		SHEET NO. OF	

A





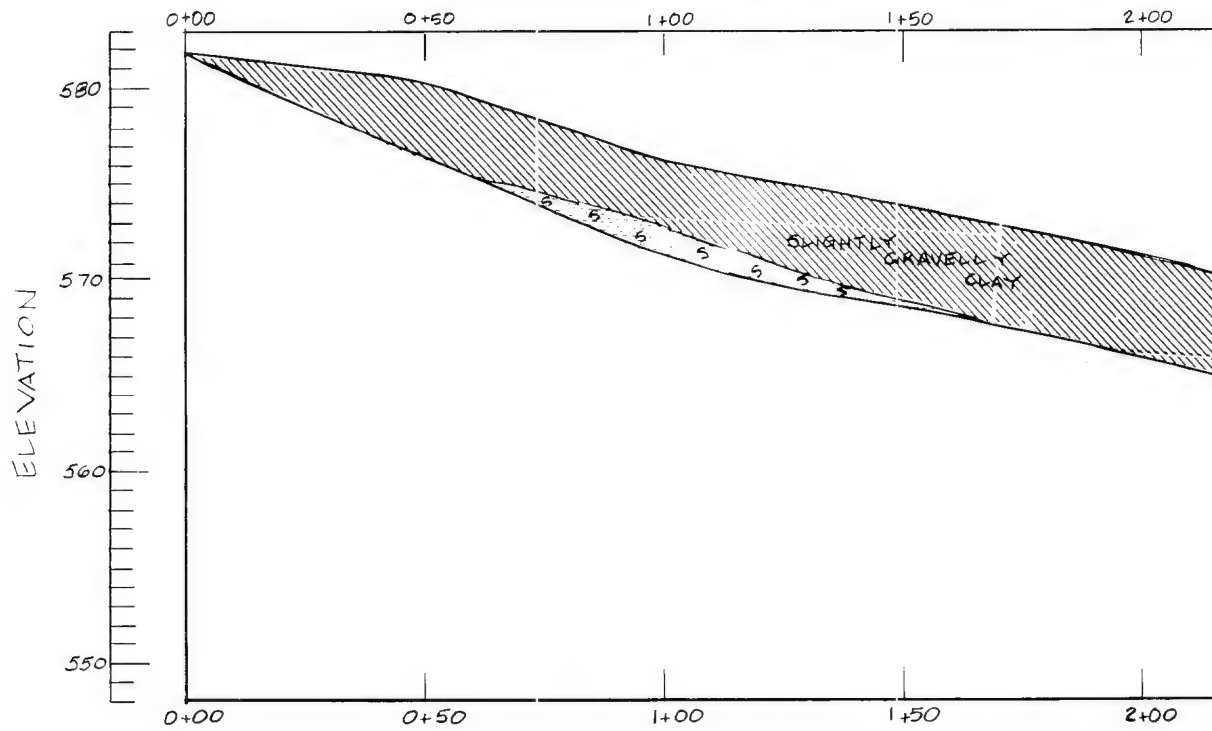


MAP SYMBOLS FOR PLAN VIEW

- DATA POINTS: ELEVATIONS, LOCATION
- LOCATION DATA ONLY
- FR STEEP-DIPPING FRACTURES FILLED WITH SANDSTONE, TERMINATION OF FRACTURES SHOWN.

DESIGNED BY: <u>G. RUDE</u>		U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS	
DRAWN BY: <u>C. KIRBY</u>		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT OUTLET WORKS STRUCTURES GEOLOGY AND EXCAVATION STA. 17+83.25 TO STA. 19+56.95	
REVIEWED BY: <u>R. BEHM</u>			
SUBMITTED BY: <u>ROBERT BEHM</u> ENGINEER		INVITATION NO.	DATE:
		CONTRACT NO.	SEQUENCE NO.
		DRAWING NUMBER	SHEET NO. OF

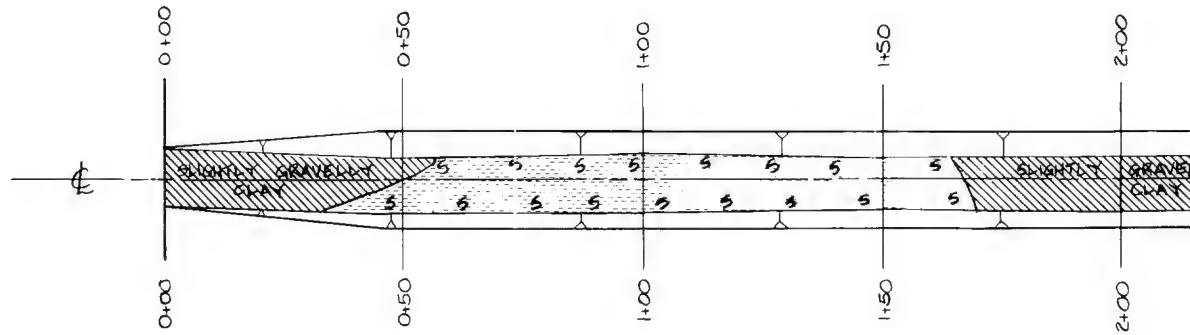
F



E

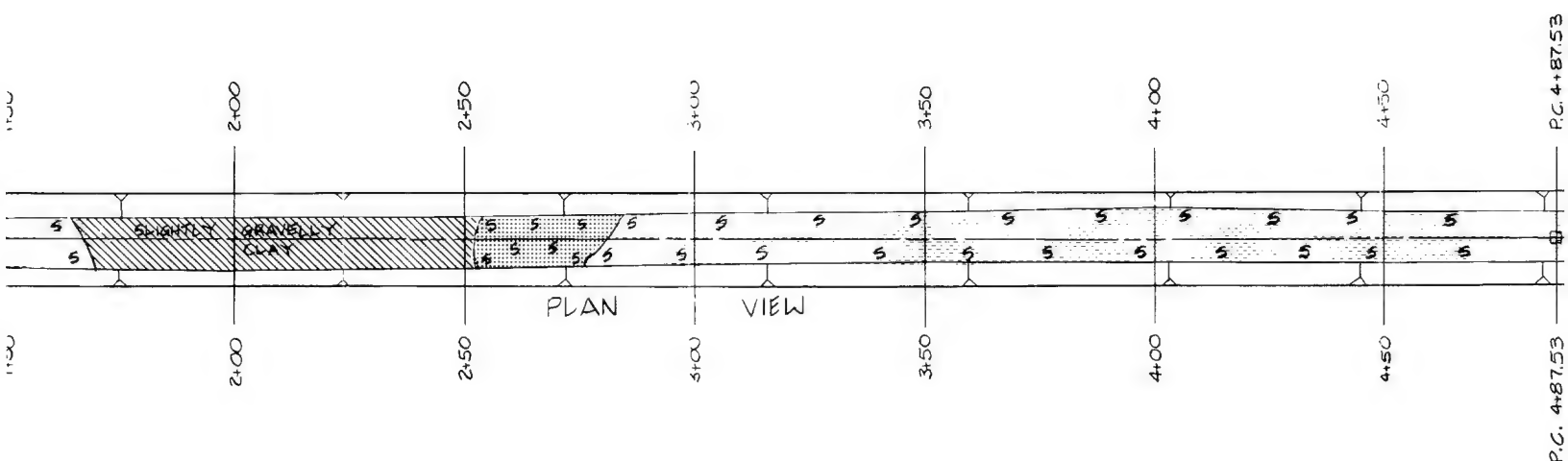
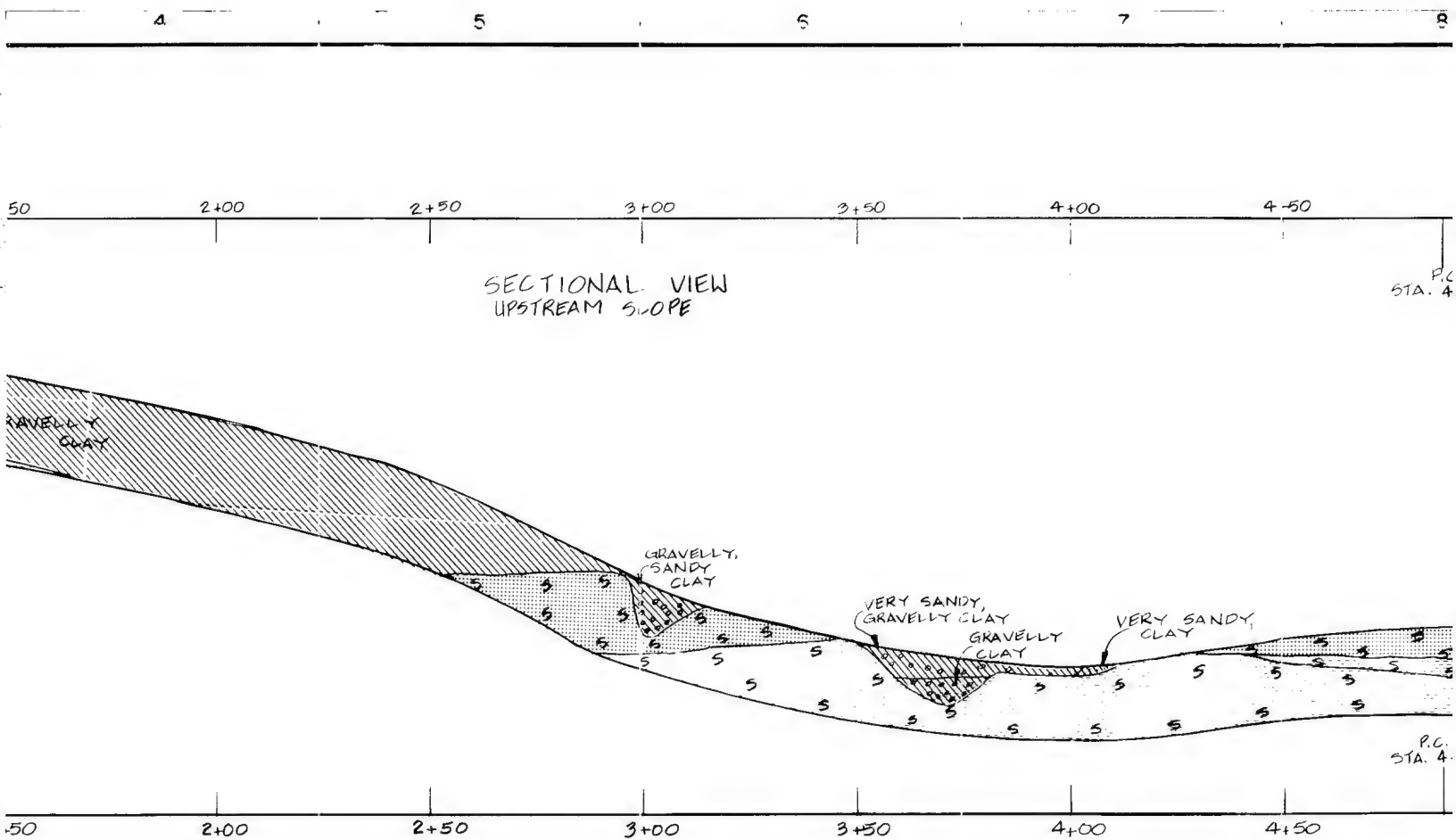
D

C



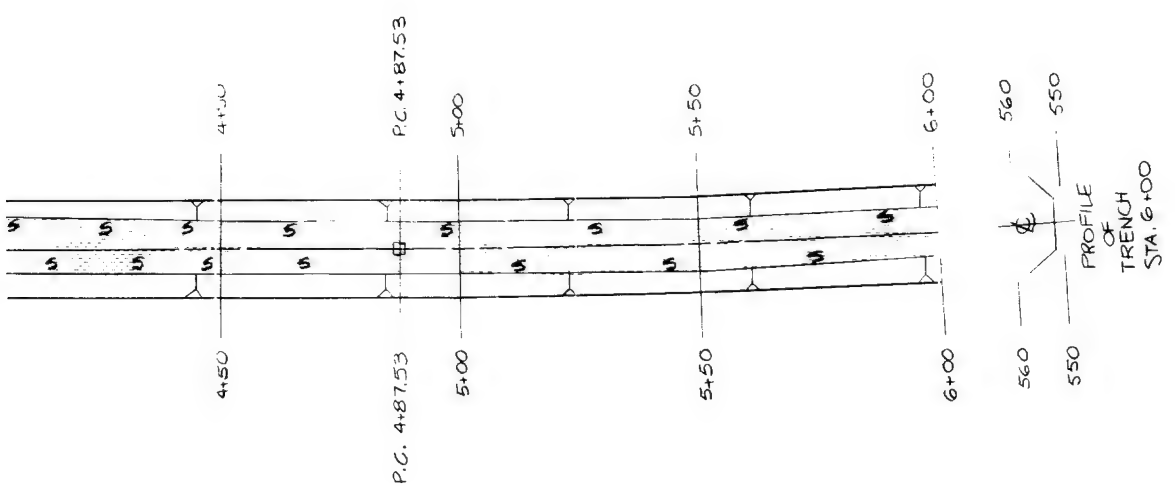
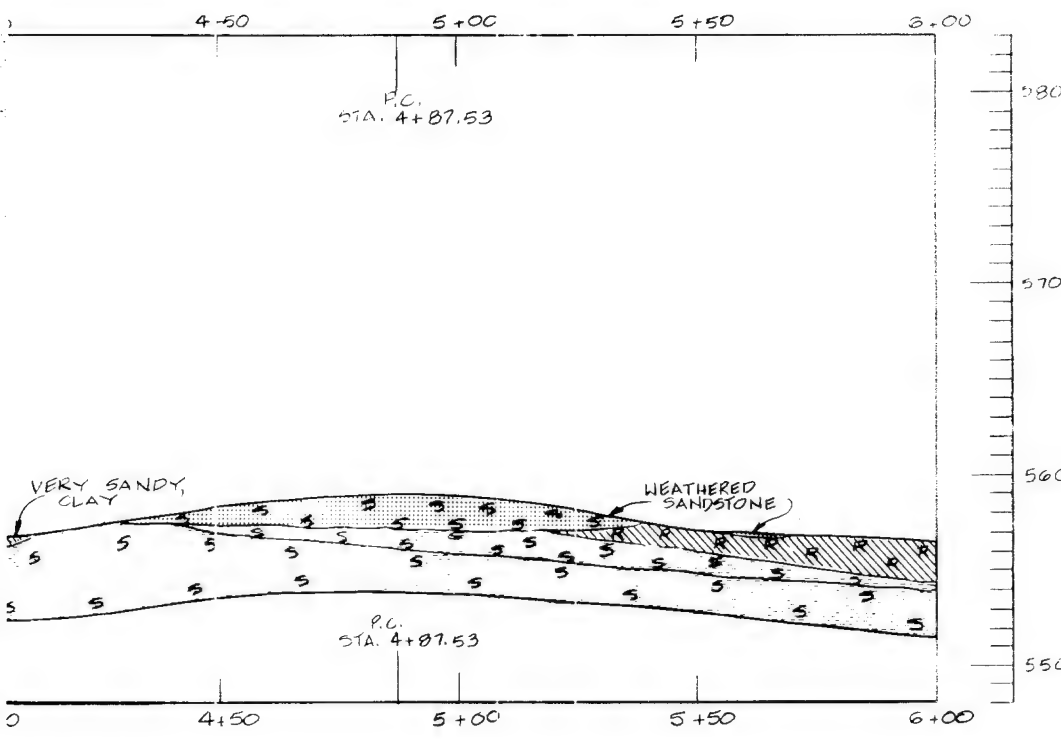
B

A



SYMBOLS:

- CLAY, SANDY CLAY, GRAVELLY CLAY, SHALY CLAY (AL)
- RESIDUAL CLAY (VERY HIGHLY WEATHERED SHALE)
- SAND, CLAYEY SAND, GRAVELLY SAND
- GRAVEL, SANDY GRAVEL, CLAYEY GRAVEL
- SANDSTONE, UNWEATHERED
- SANDSTONE, WEATHERED
- SHALE, UNWEATHERED
- SHALE, WEATHERED
- SHALE, HIGHLY WEATHERED, OF CLAY CONSISTENCY IN PART OR WHOLLY



AY, GRAVELLY CLAY, SHALY CLAY (ALLUVIUM)
 Y (VERY HIGHLY WEATHERED SHALE)
 SAND, GRAVELLY SAND
 GRAVEL, CLAYEY GRAVEL
 WEATHERED
 EATHERED
 HERED
 RED
 WEATHERED, OF CLAY CONSISTENCY
 OR WHOLLY

SYN.	DD.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
DESIGNED BY: <u>G. RUDE</u>					U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS
DRAWN BY: <u>C. KIRBY</u>					
REVIEWED BY: <u>R. BEHM</u>					
SUBMITTED BY: <u>ROBERT BEHM</u>					
CONTRACT NO.					INVITATION NO.
DRAWING NUMBER					SHEET NO. OF
DATE:					SEQUENCE NO.

①

F

E

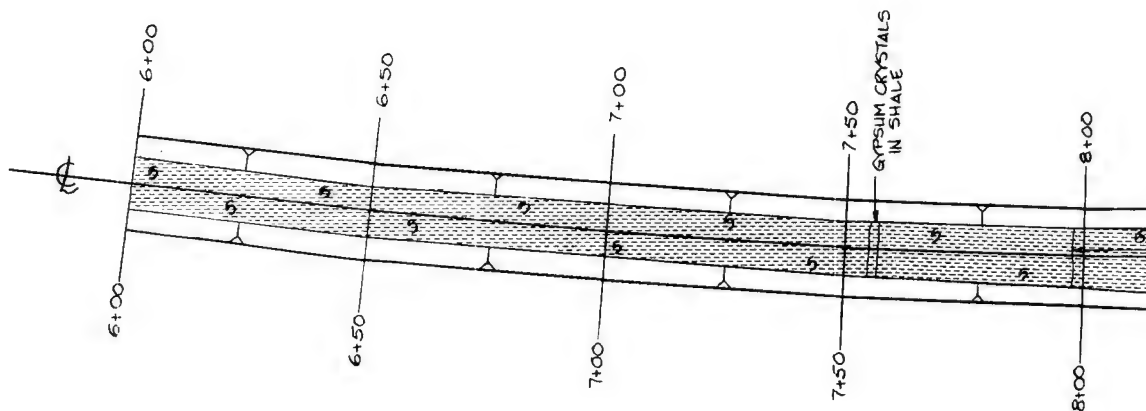
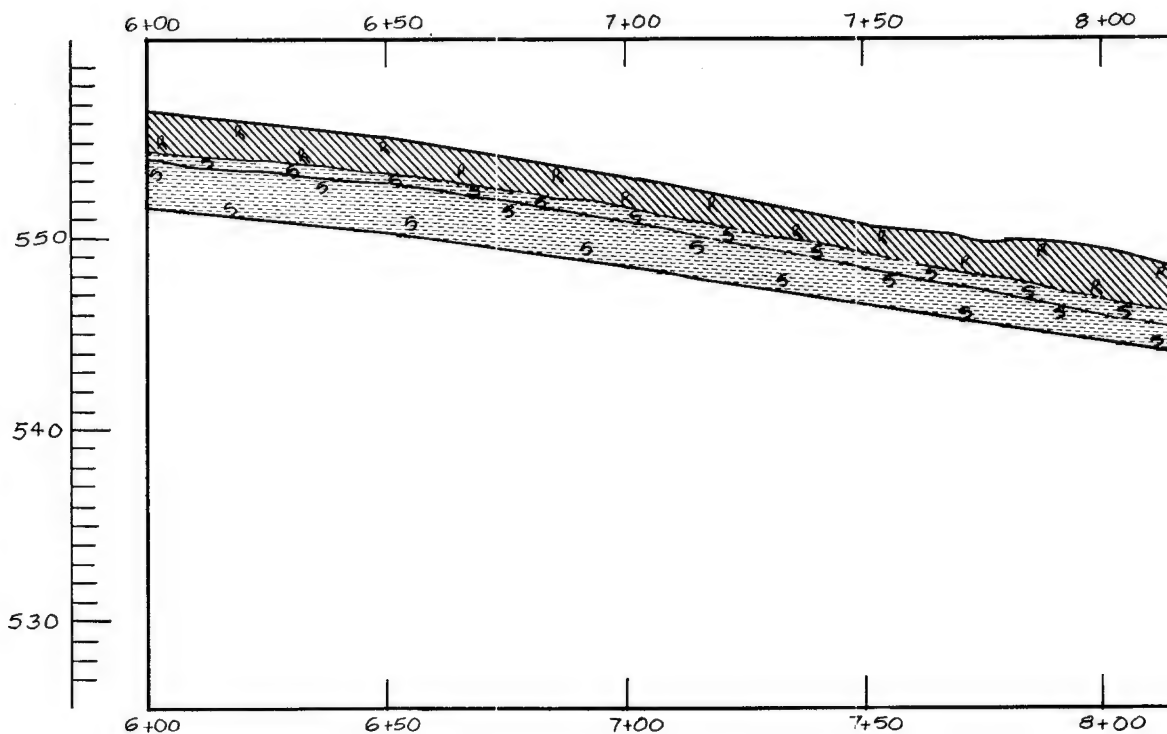
D

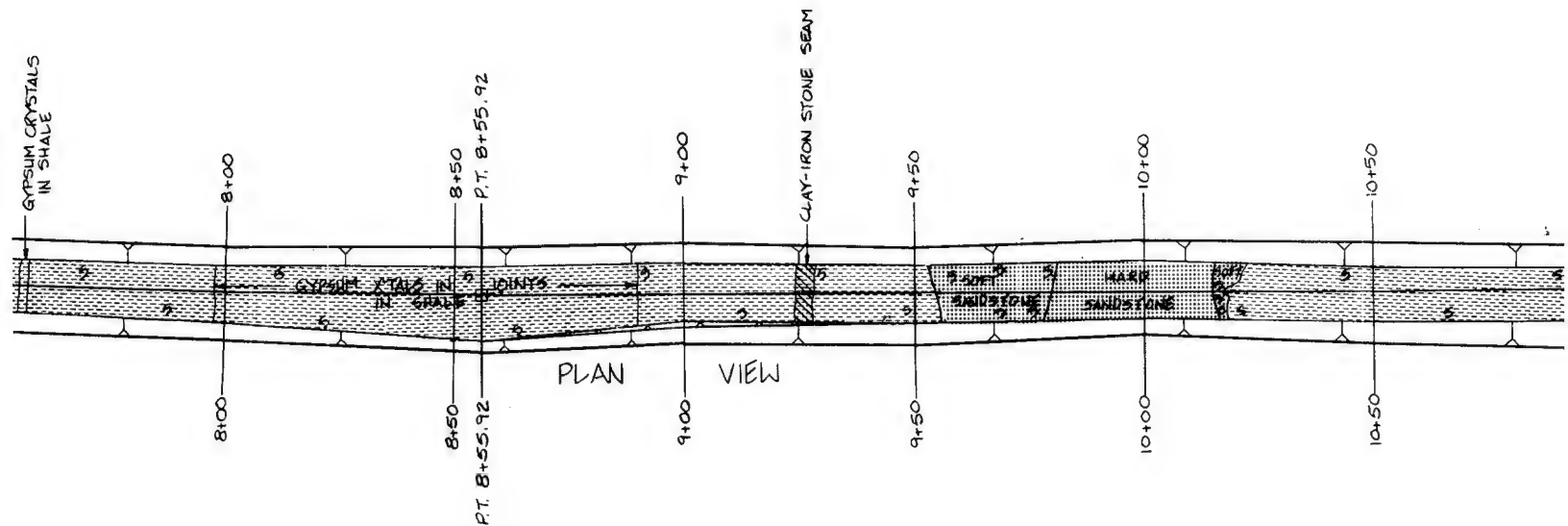
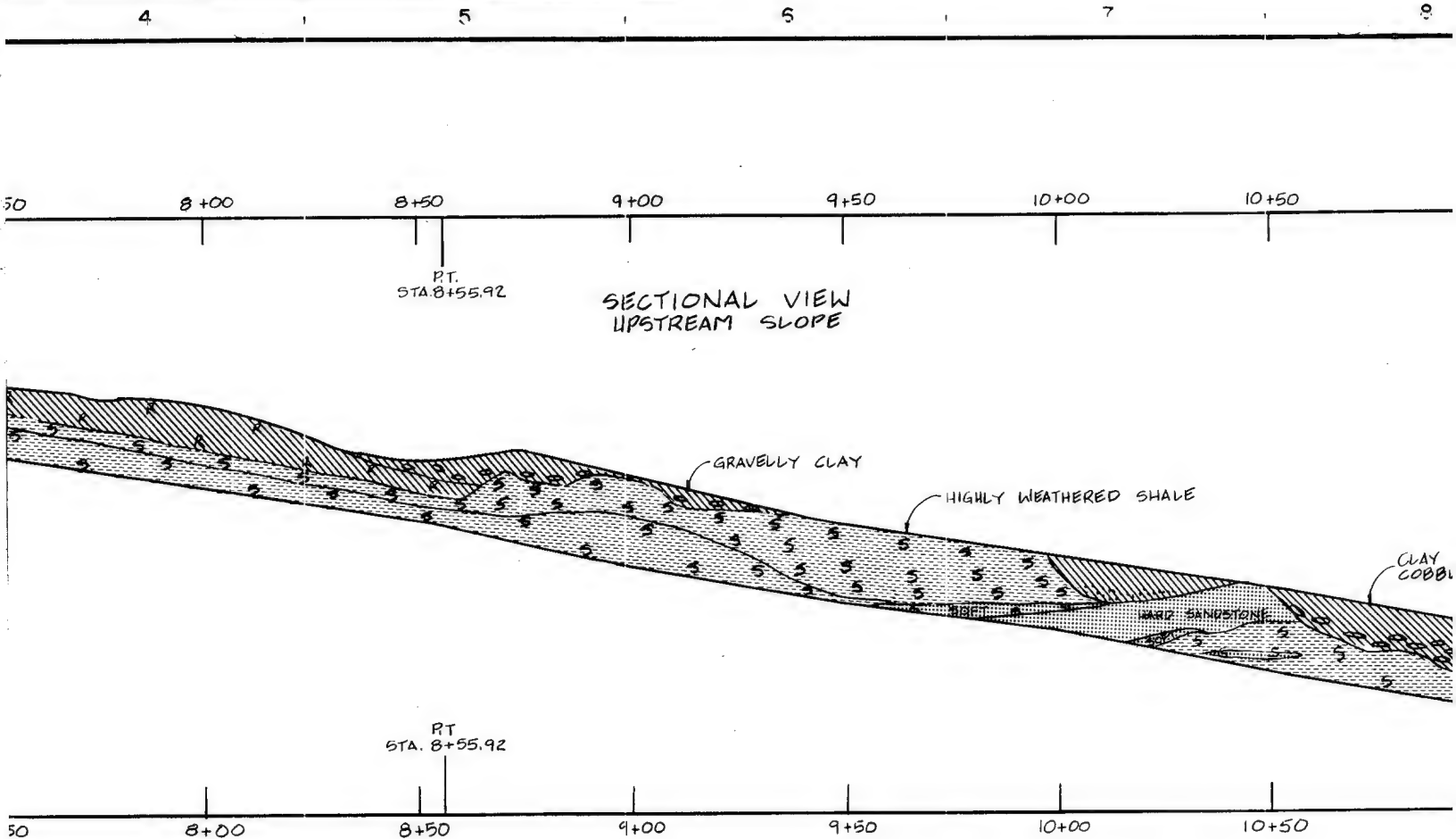
C

B

A

ELEVATION





NOTE:
1. FOR MAP SYMBOLS, REFER TO PLATE



CONTRACT NO.

①

F

E

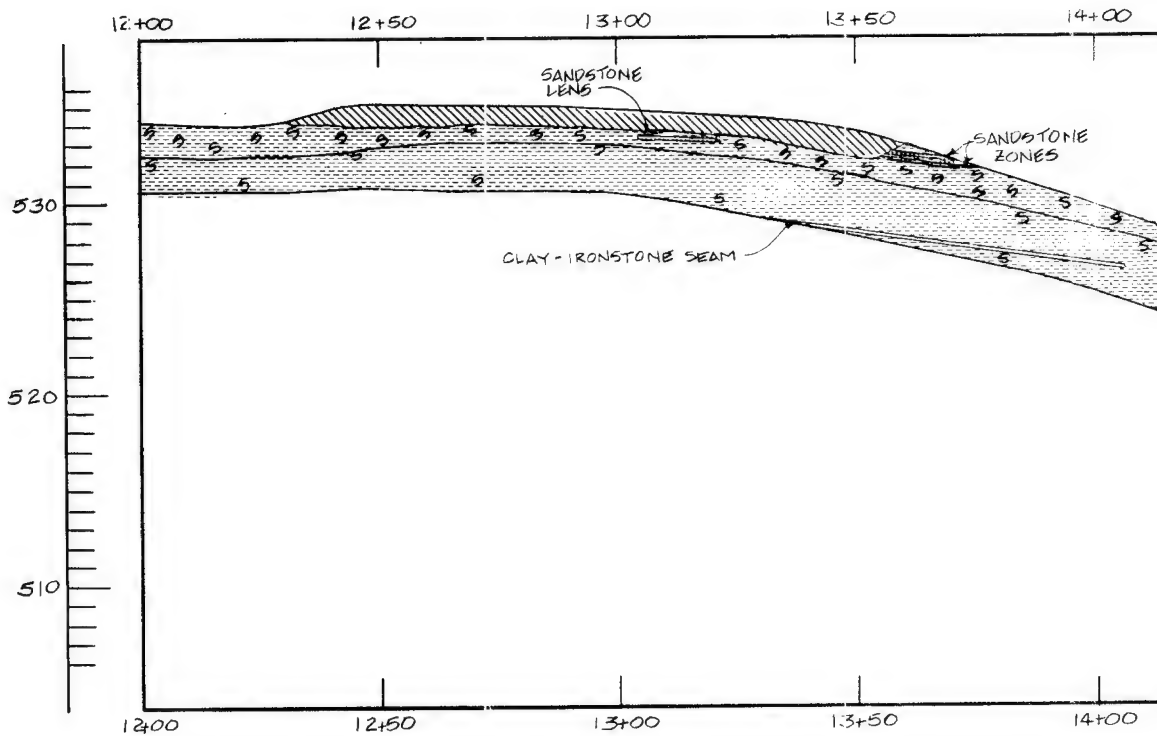
D

C

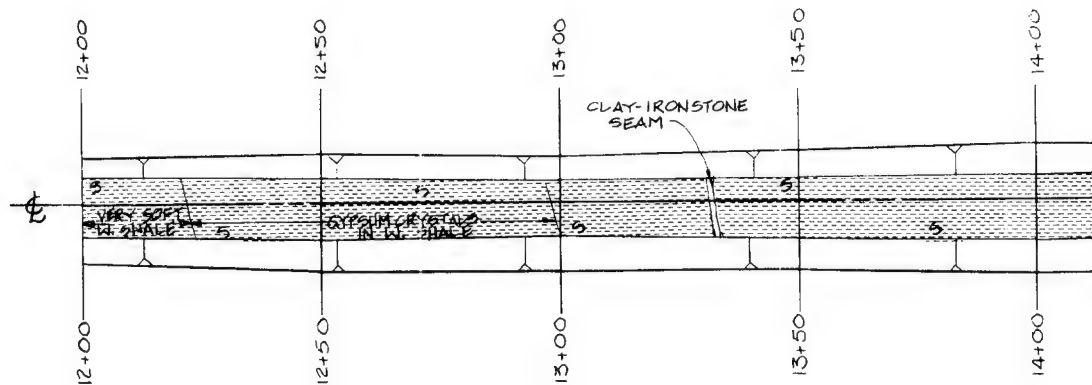
B

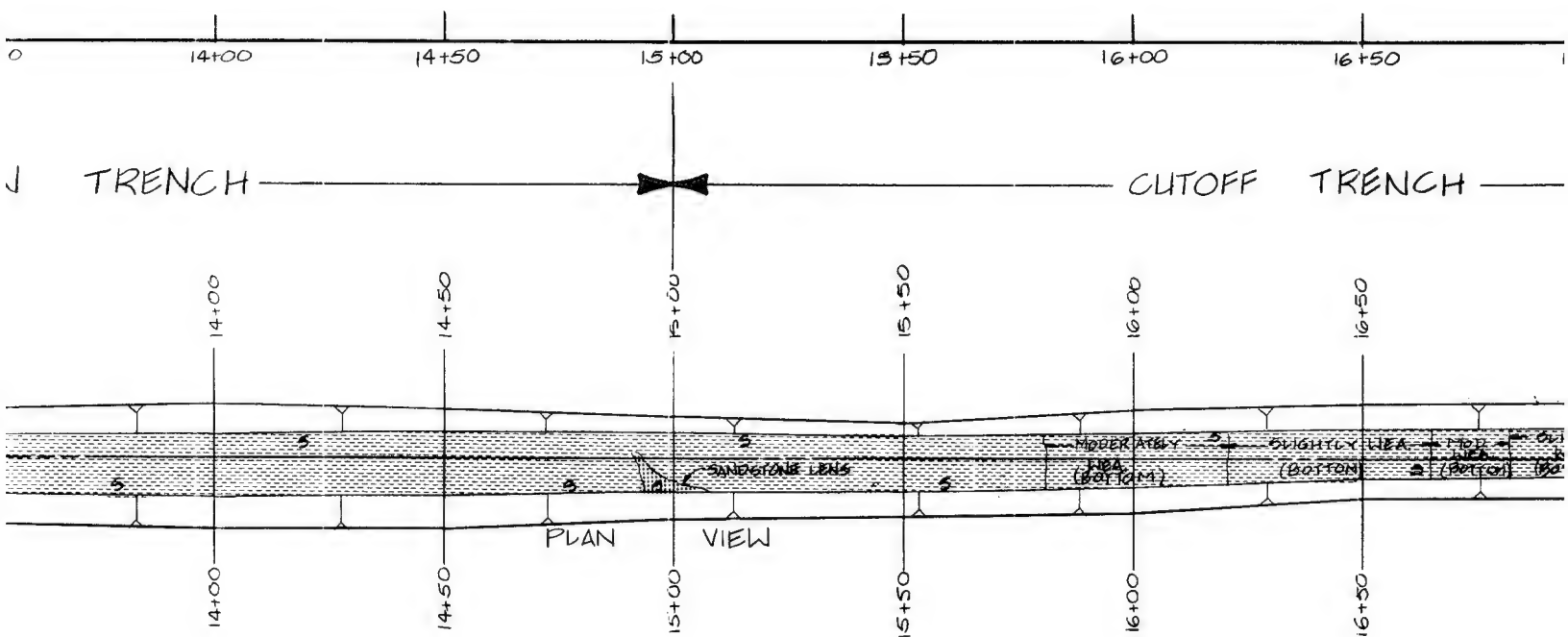
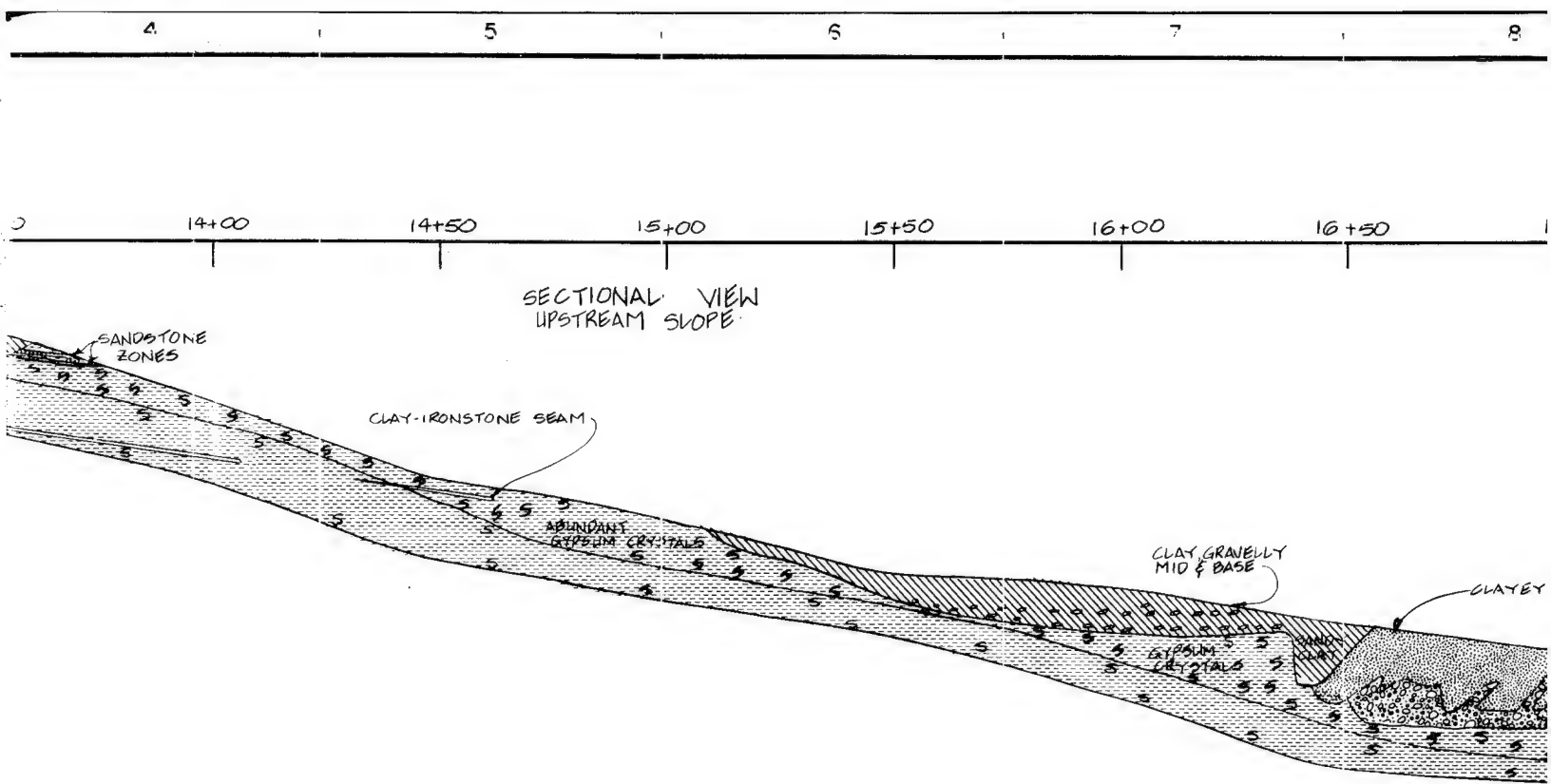
A

ELEVATION



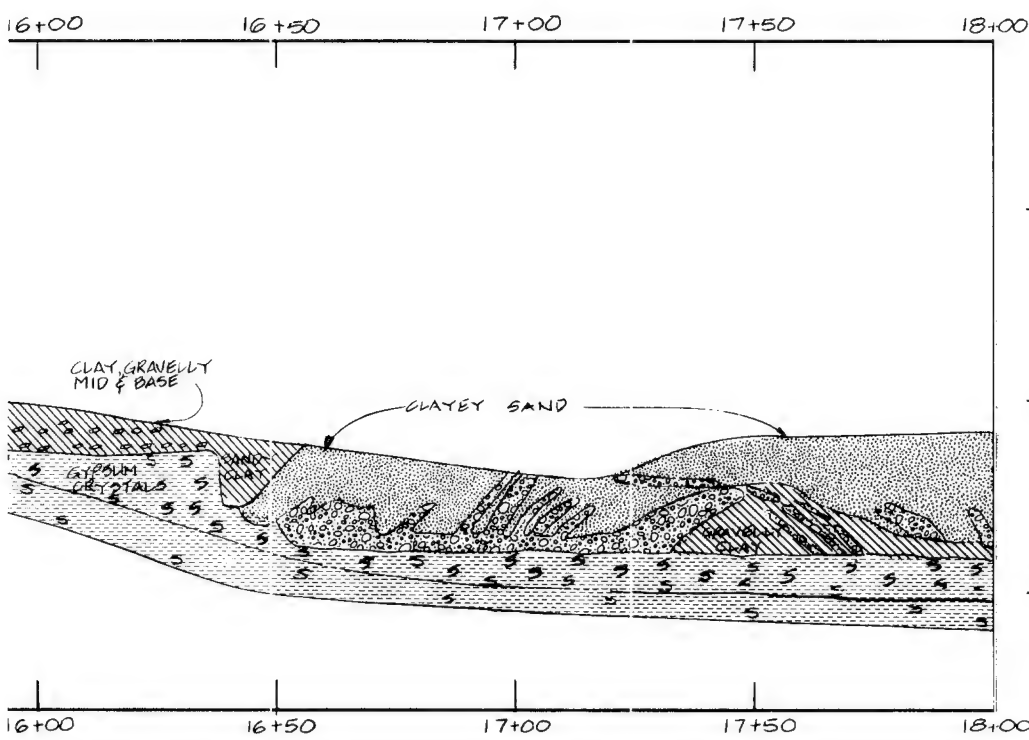
INSPECTION TRENCH -



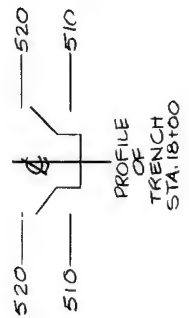
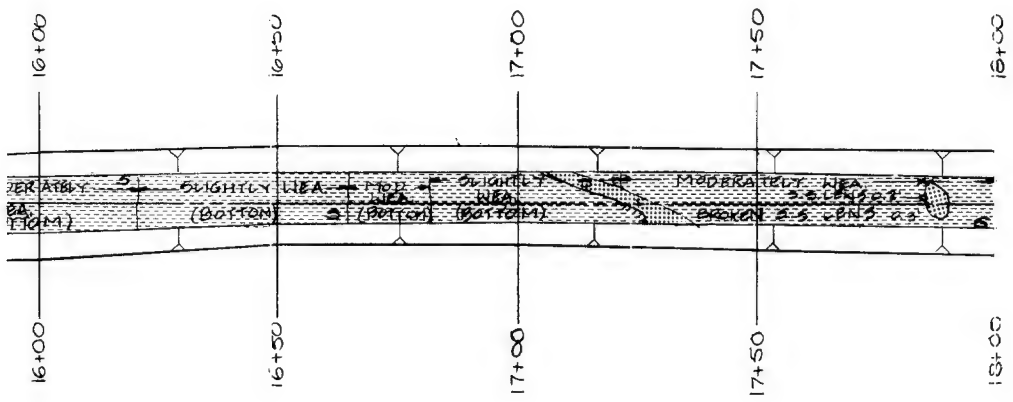


NOTE:

1. FOR MAP SYMBOLS, REFER TO PLATE 16.



- CUTOFF TRENCH —————>



OR MAP SYMBOLS, REFER TO PLATE 16.

SYM. NO.		ACTION		DATE		DESCRIPTION OF REVISION	
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS							
DESIGNED BY: G. RUEDE		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT CUTOFF AND INSPECTION TRENCHES GEOLOGY AND EXCAVATION STA. 12+00.00 TO STA. 18+00.00					
DRAWN BY: C. KIRBY							
REVIEWED BY: R. BEHM							
SUBMITTED BY: ROBERT BEHM		INVITATION NO.		DATE:			
ENGINEER:		CONTRACT NO.		DRAWING NUMBER		SHEET NO. OF	
						SEQUENCE NO.	

①

F

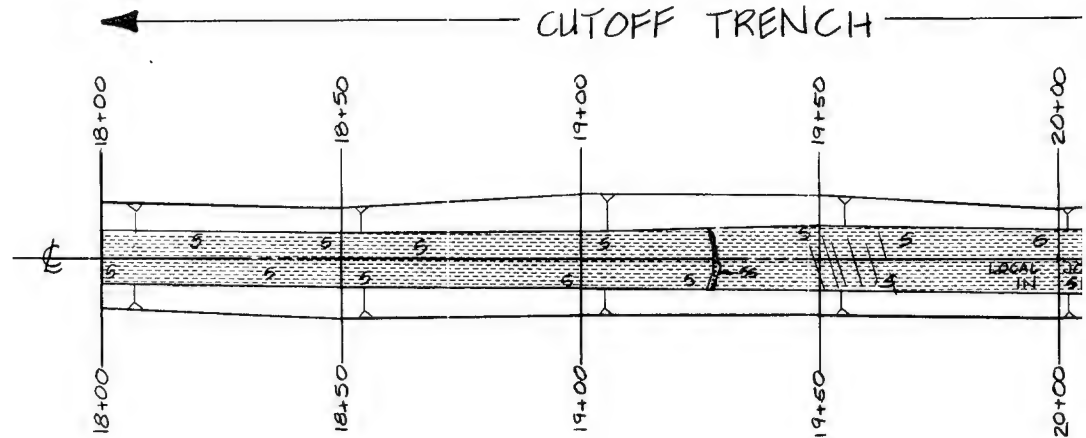
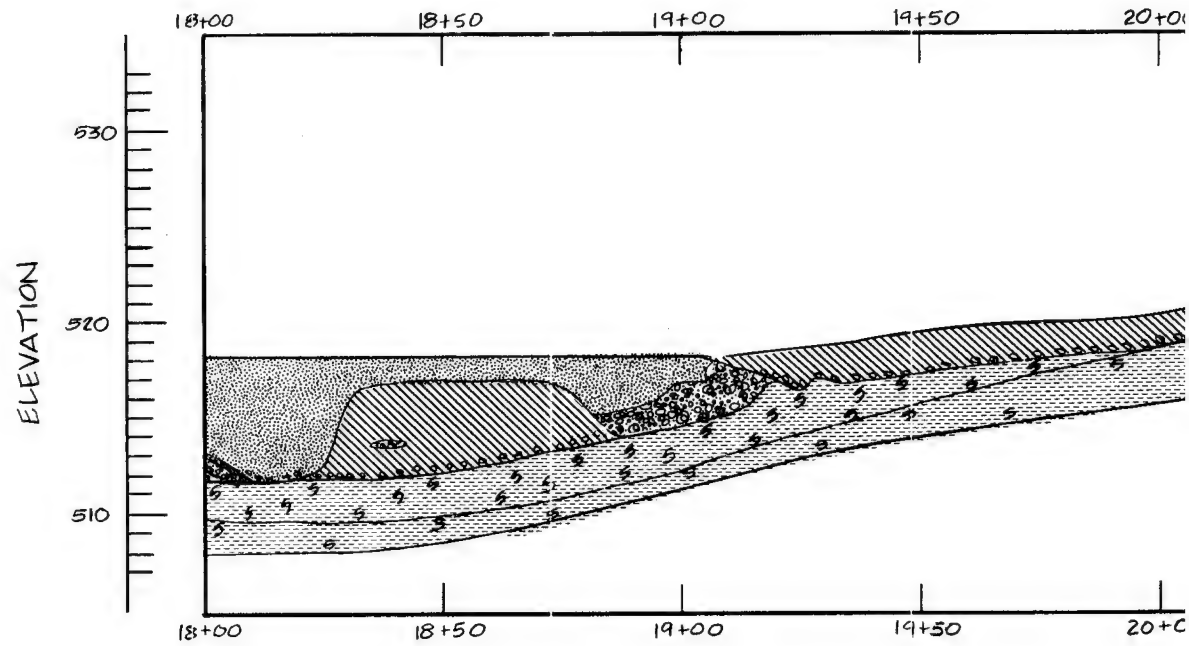
E

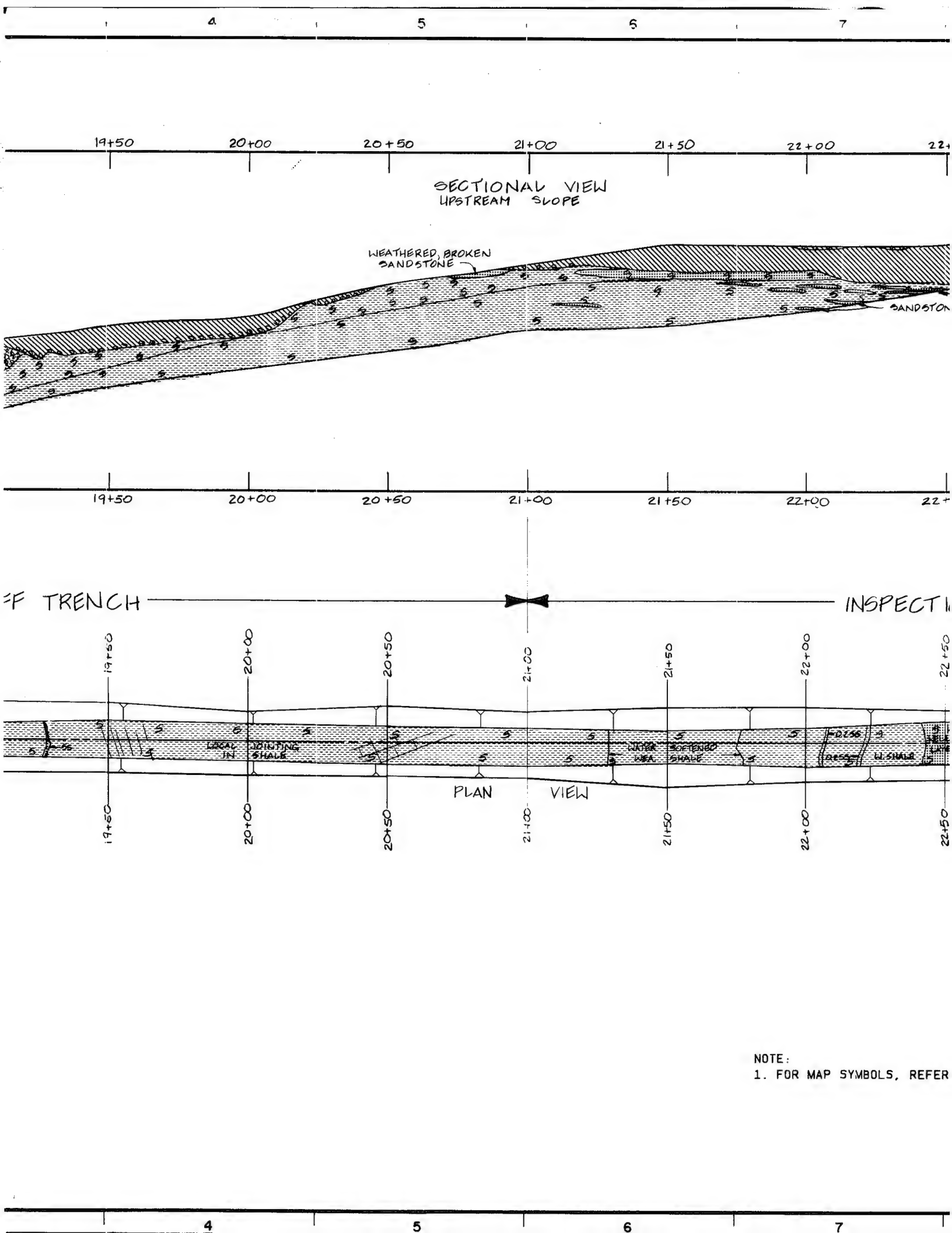
D

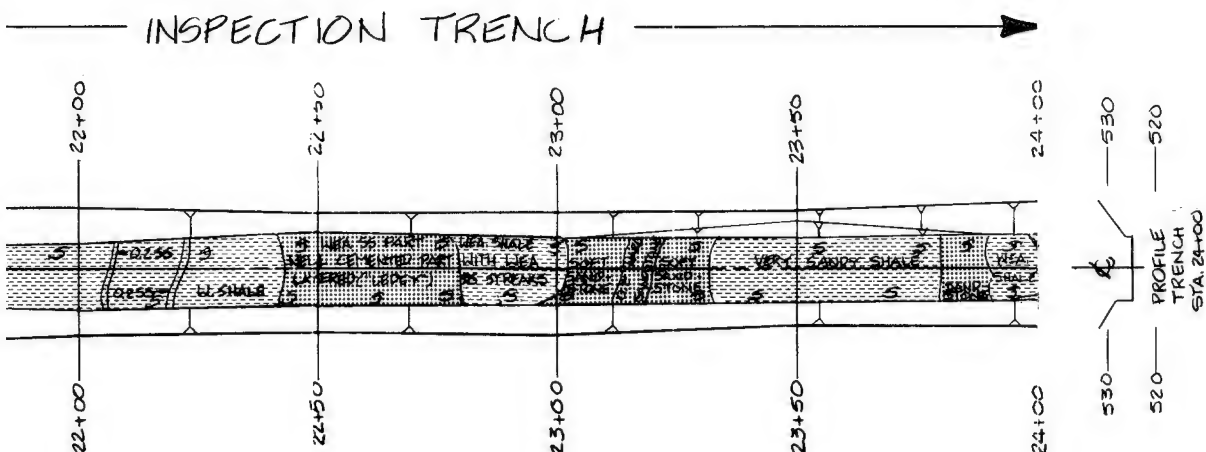
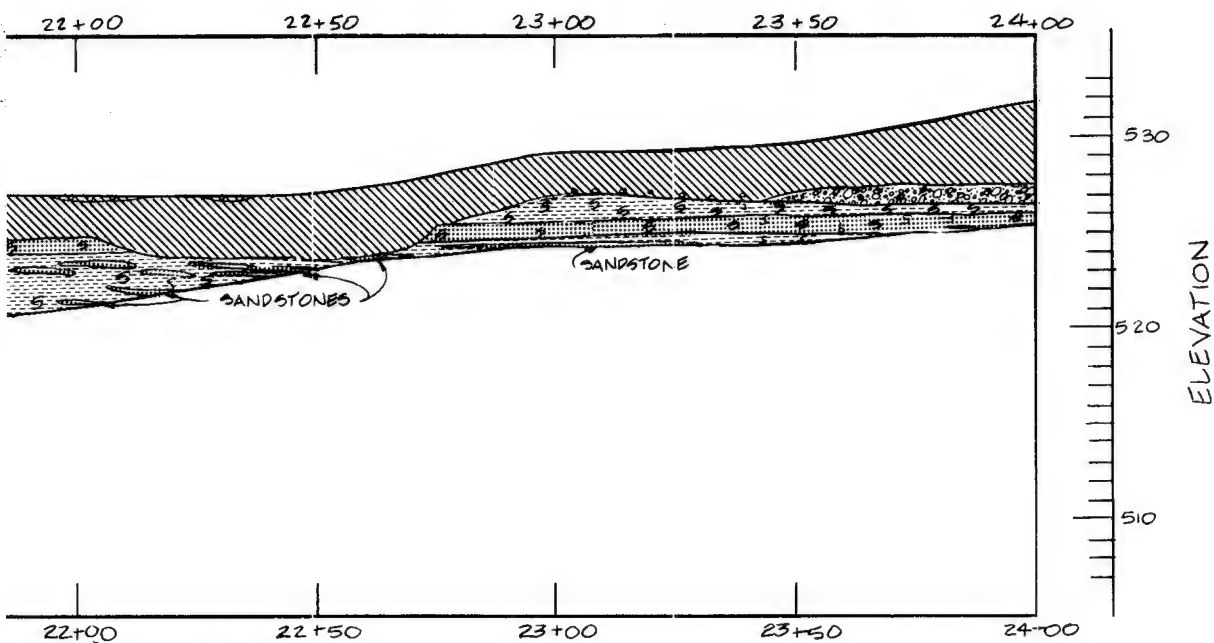
C

B

A







NOTE:
FOR MAP SYMBOLS, REFER TO PLATE 16.

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
DESIGNED BY: <u>G. RUEDE</u>			U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS
DRAWN BY: <u>C. KIRBY</u>			
REVIEWED BY: <u>R. BEHM</u>			
SUBMITTED BY: <u>ROBERT BEHM</u>			
INVIATION NO.			DATE:
CONTRACT NO.			SEQUENCE NO.
DRAWING NUMBER			SHEET NO. OF

AQUILLA LAKE
AQUILLA AND HACKBERRY CREEKS, TEXAS
FINAL FOUNDATION REPORT
CUTOFF AND INSPECTION TRENCHES
GEOLOGY AND EXCAVATION
STA. 18+00.00 TO STA. 24+00.00

①

F

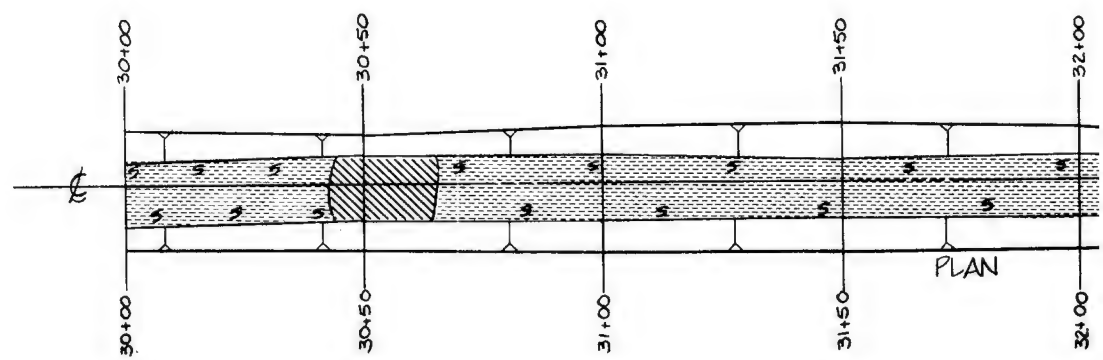
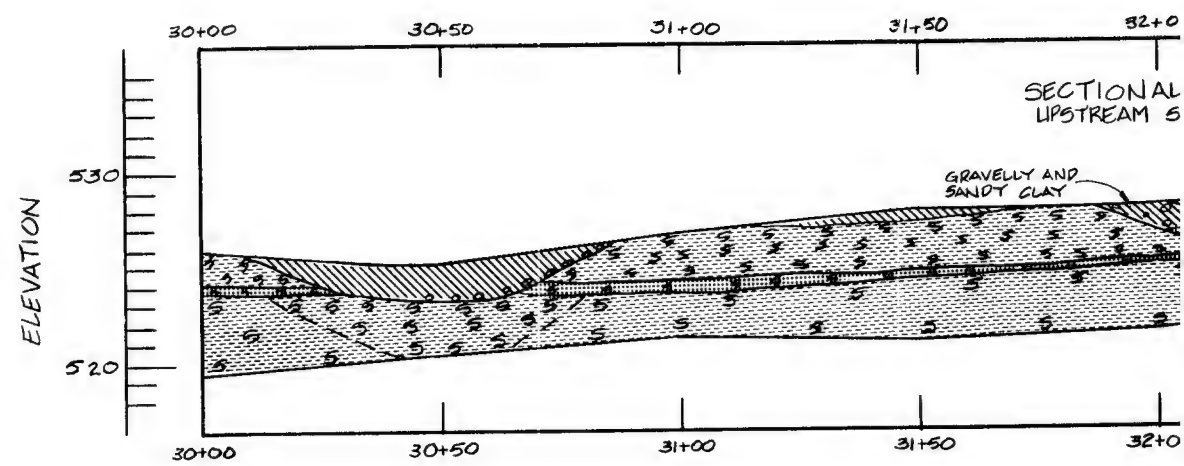
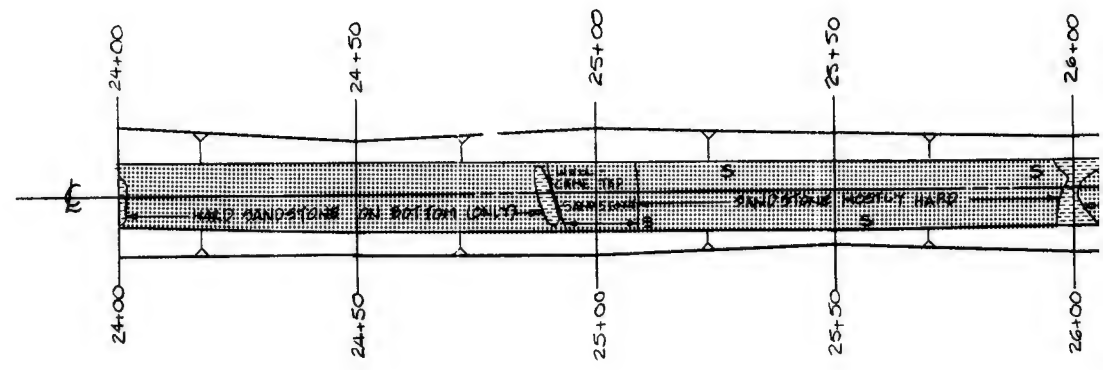
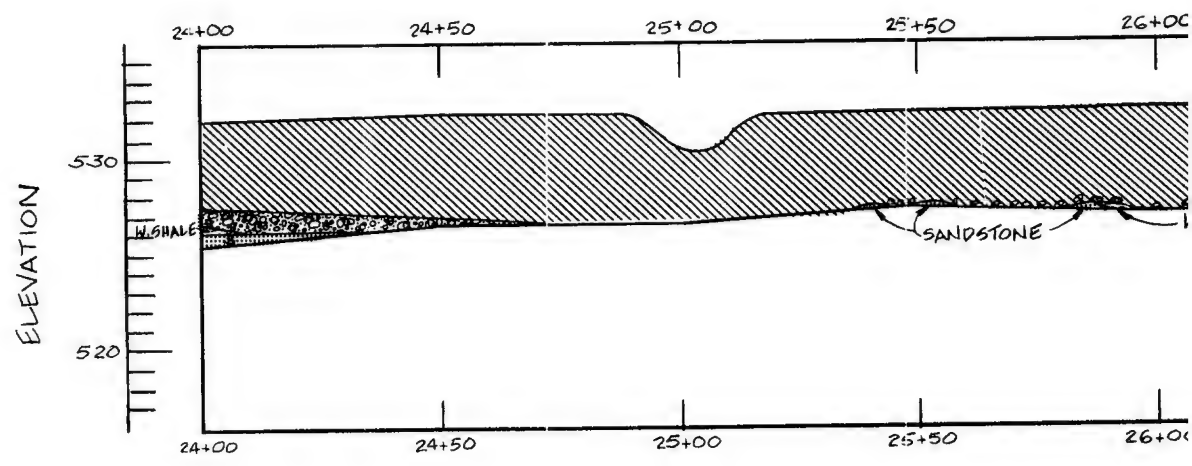
E

D

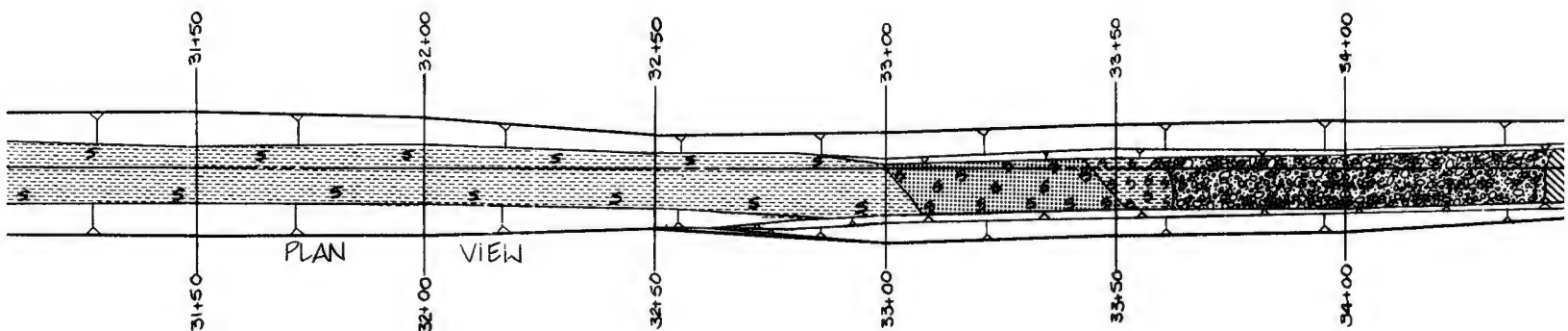
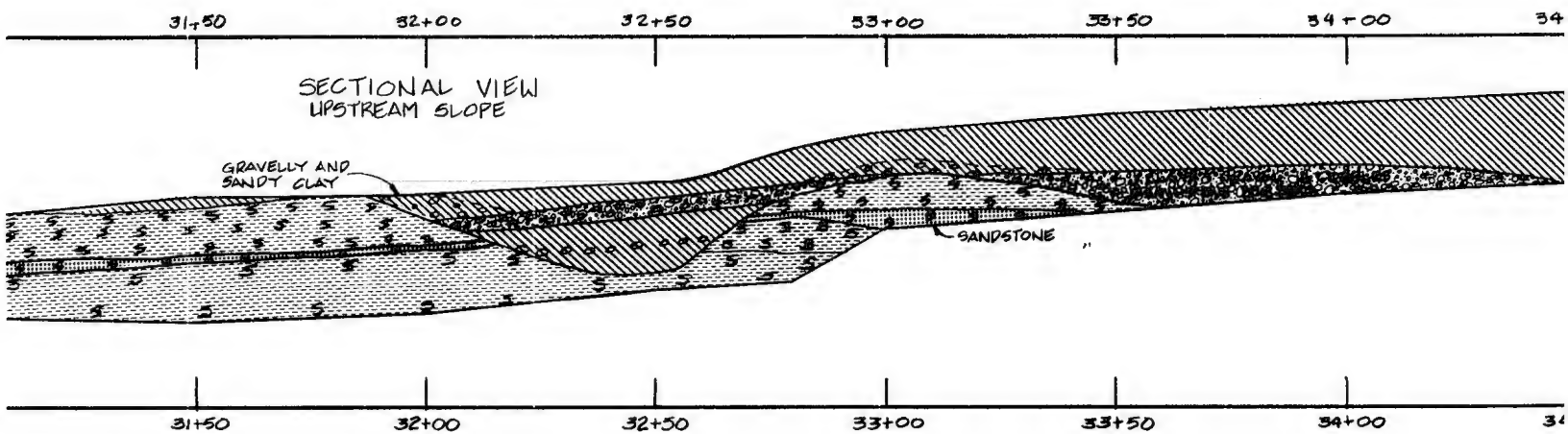
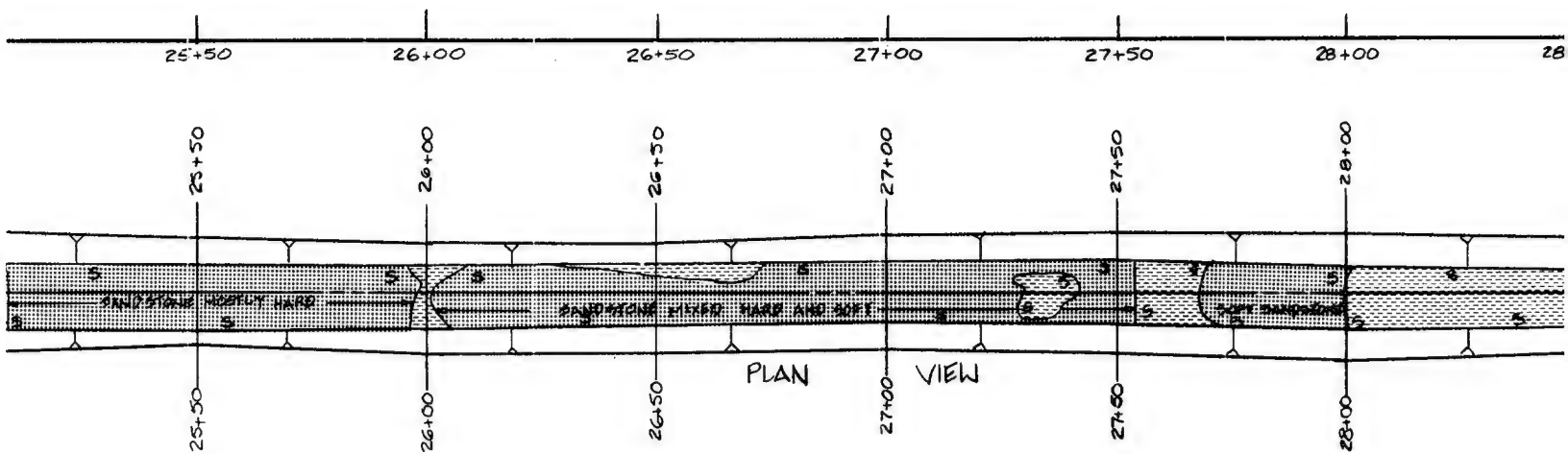
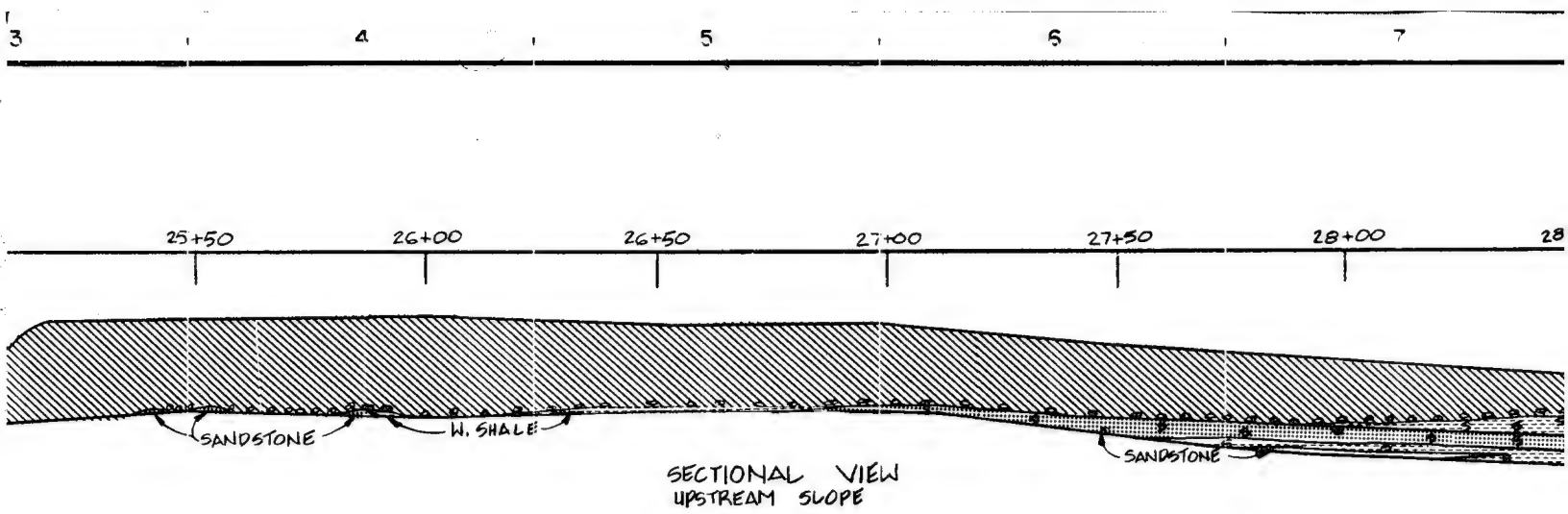
C

B

A



PORTLAND, ORE



F

E

D

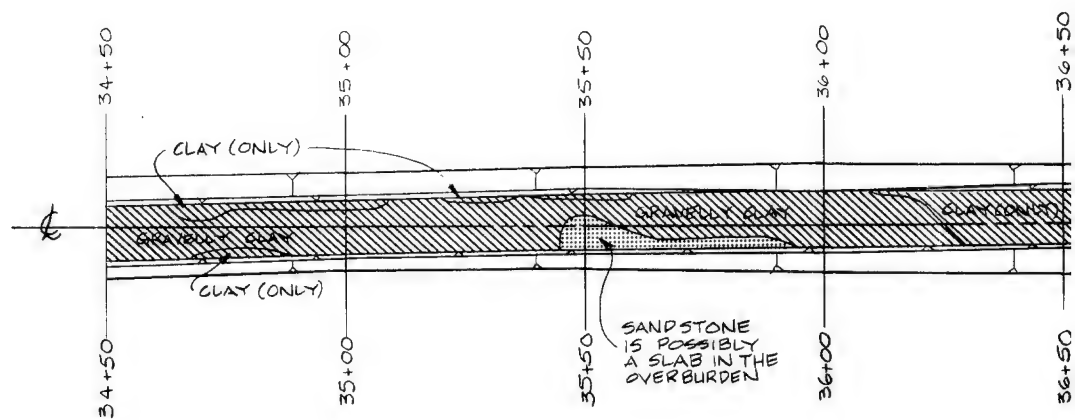
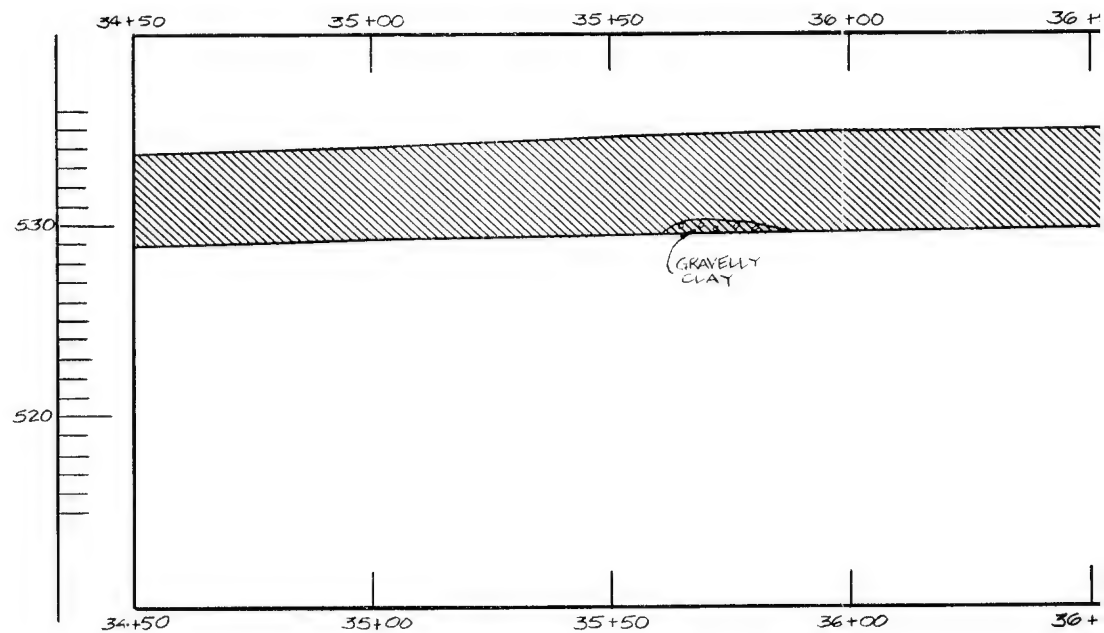
C

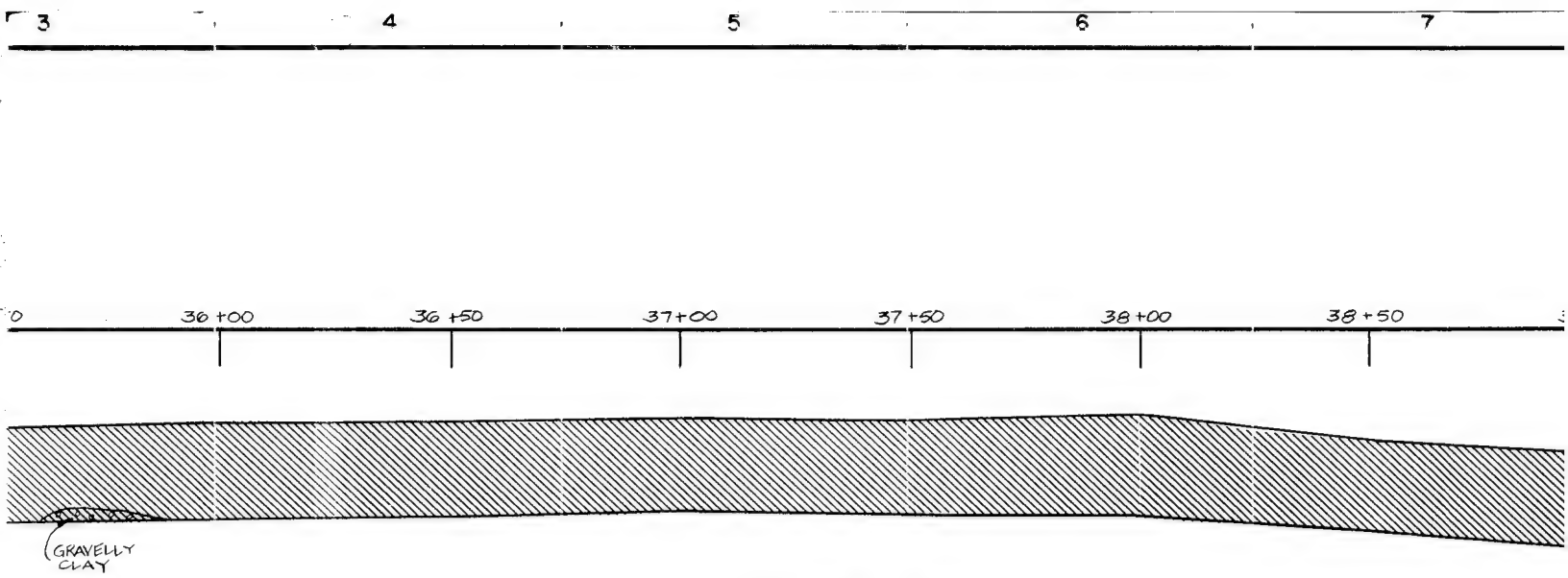
B

A

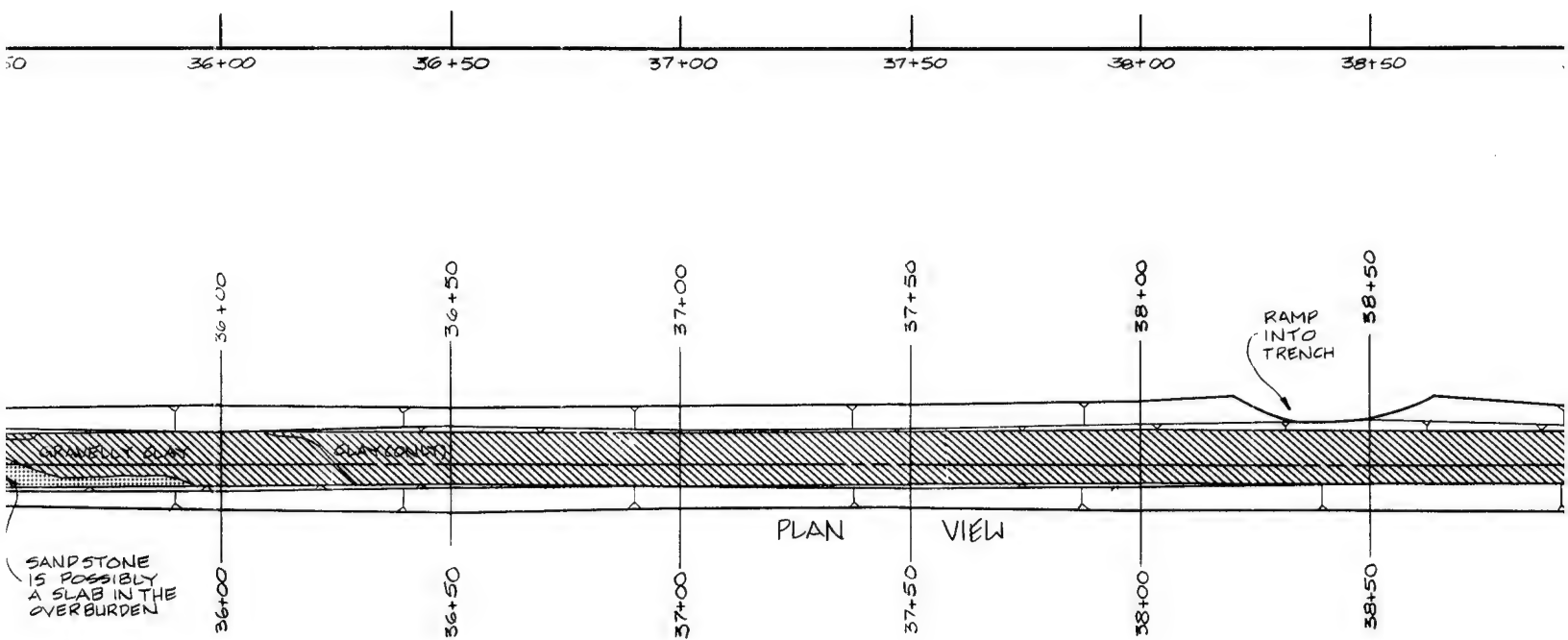
POLYTRACE 033

ELEVATION





SECTIONAL VIEW
UPSTREAM SLOPE



PLAN VIEW

NOTE:
1. FOR MAP SY

1

2

3

4

F

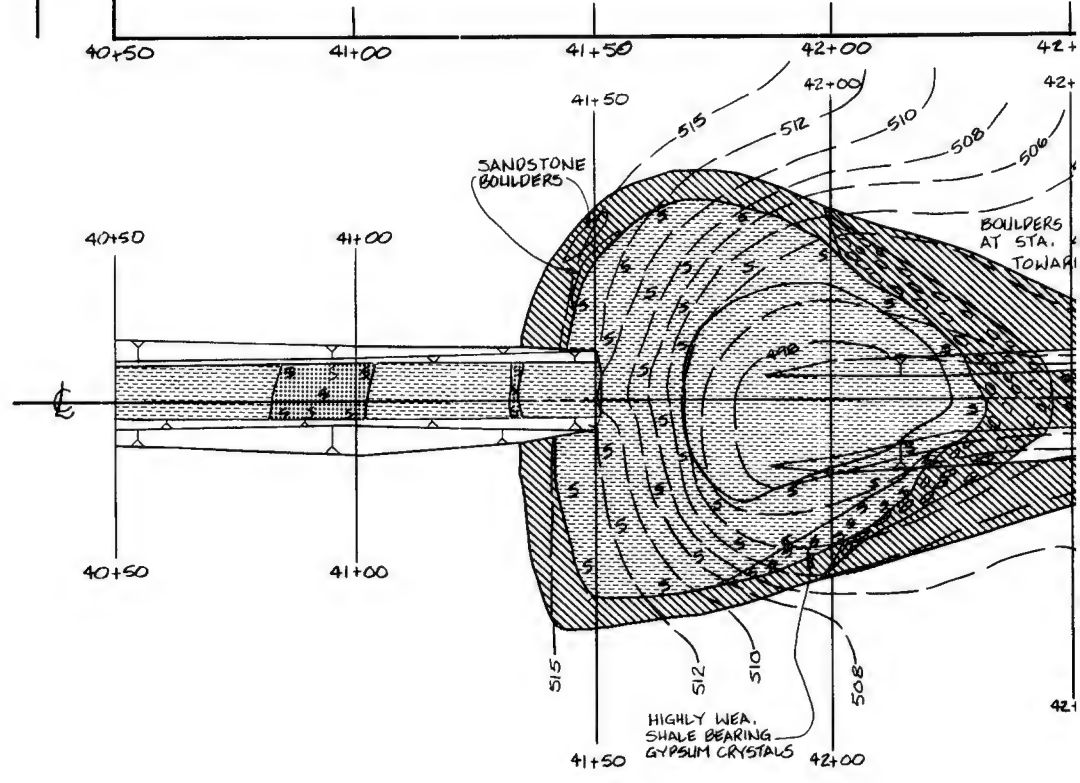
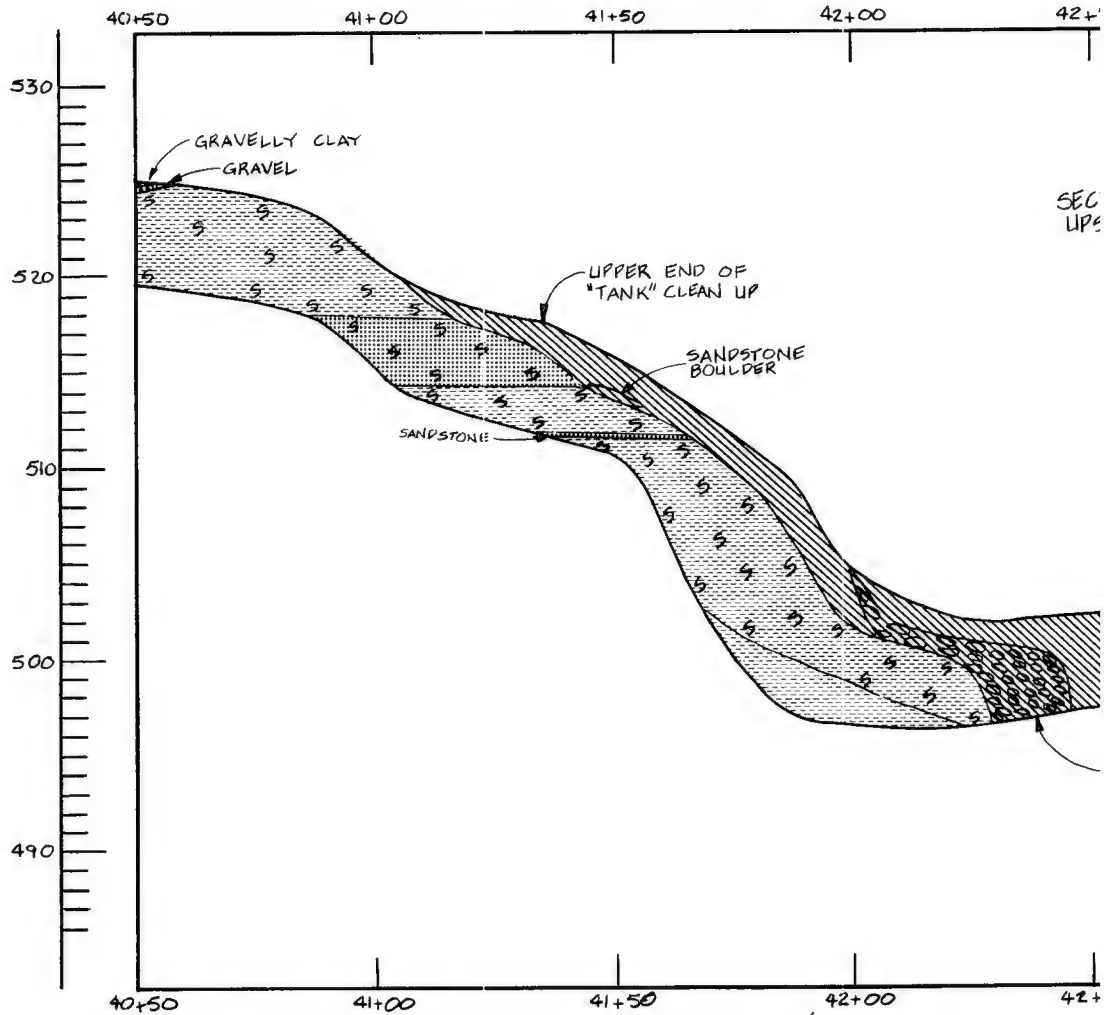
E

D

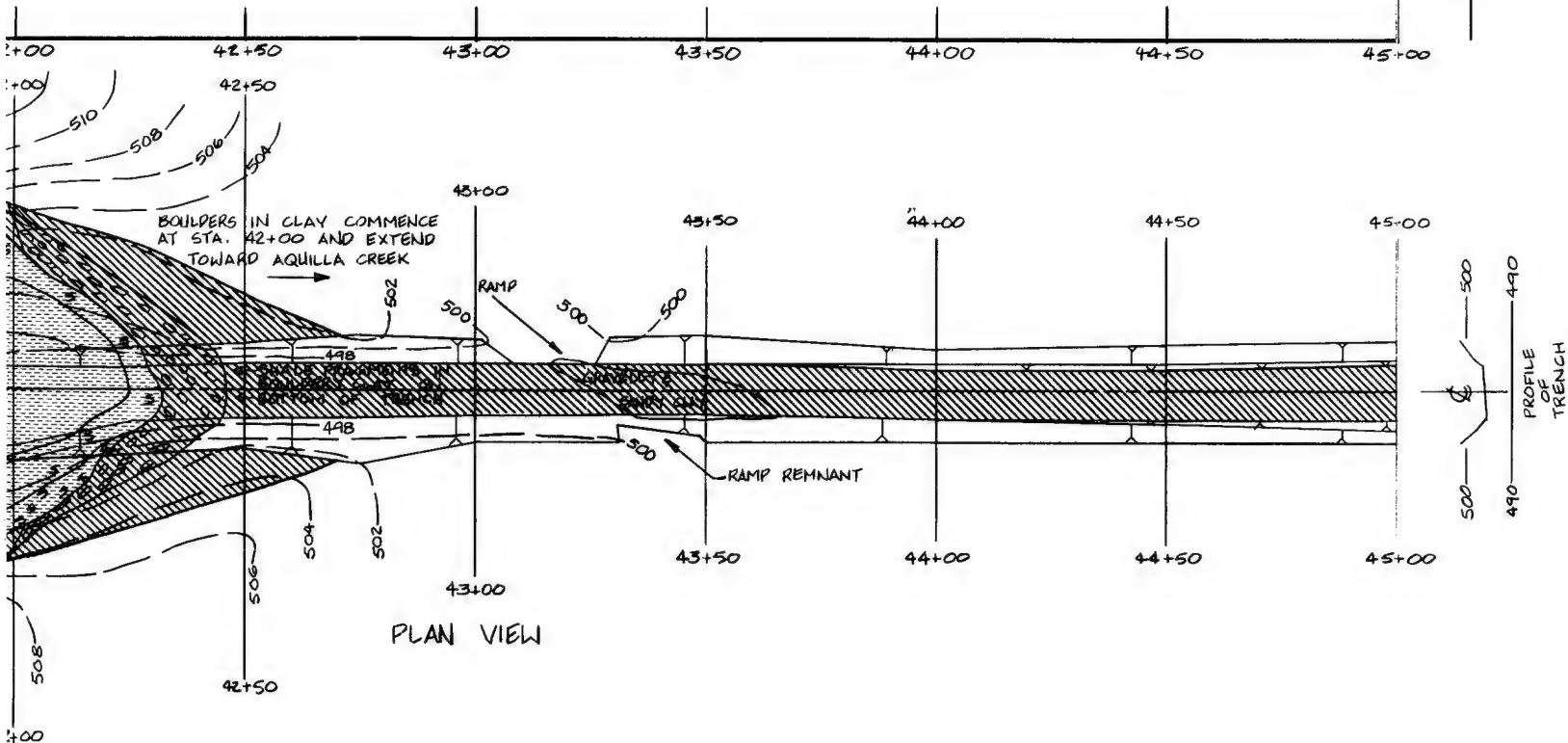
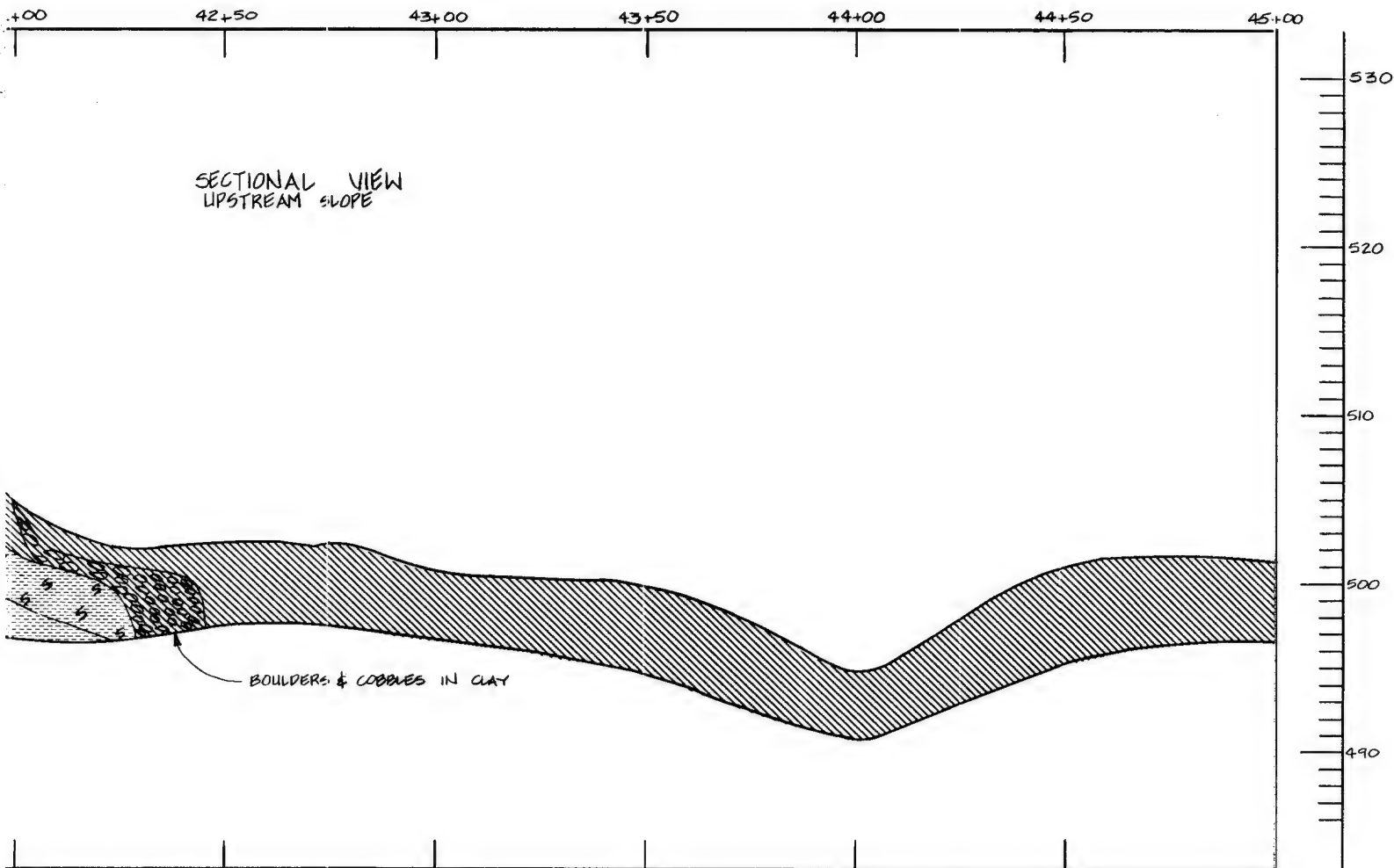
B

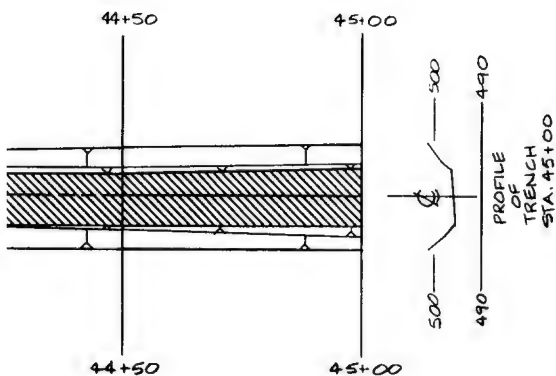
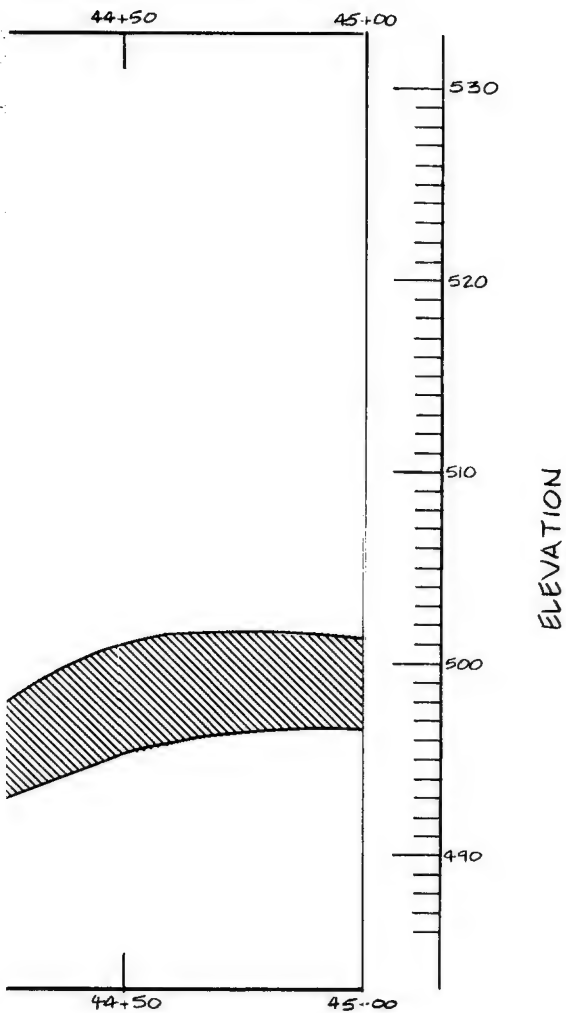
A

ELEVATION



PLANETARY 683





NOTE:

1. FOR MAP SYMBOLS, REFER TO PLATE 16.

SYM.	NO.	ACTION	DATE	DESCRIPTION OF REVISION

U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS		
DESIGNED BY: G. RUEBE	AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT INSPECTION TRENCH GEOLOGY AND EXCAVATION STA. 40+50.00 TO STA. 45+00.00	
DRAWN BY: C. KIRBY		
REVIEWED BY: -----		
SUBMITTED BY: -----		
ENGINEER: -----	INVITATION NO. -----	DATE: -----
CONTRACT NO. -----	DRAWING NUMBER -----	SHEET NO. OF -----
SEQUENCE NO. -----		CONTRACT NO. -----

F

E

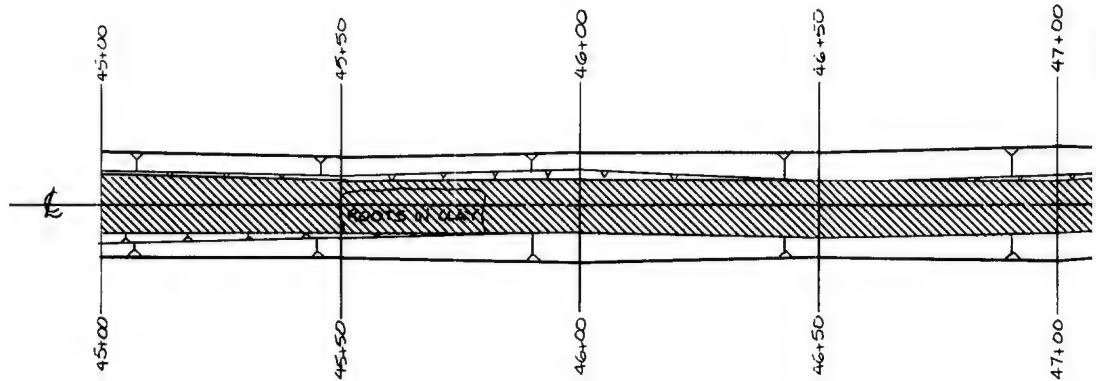
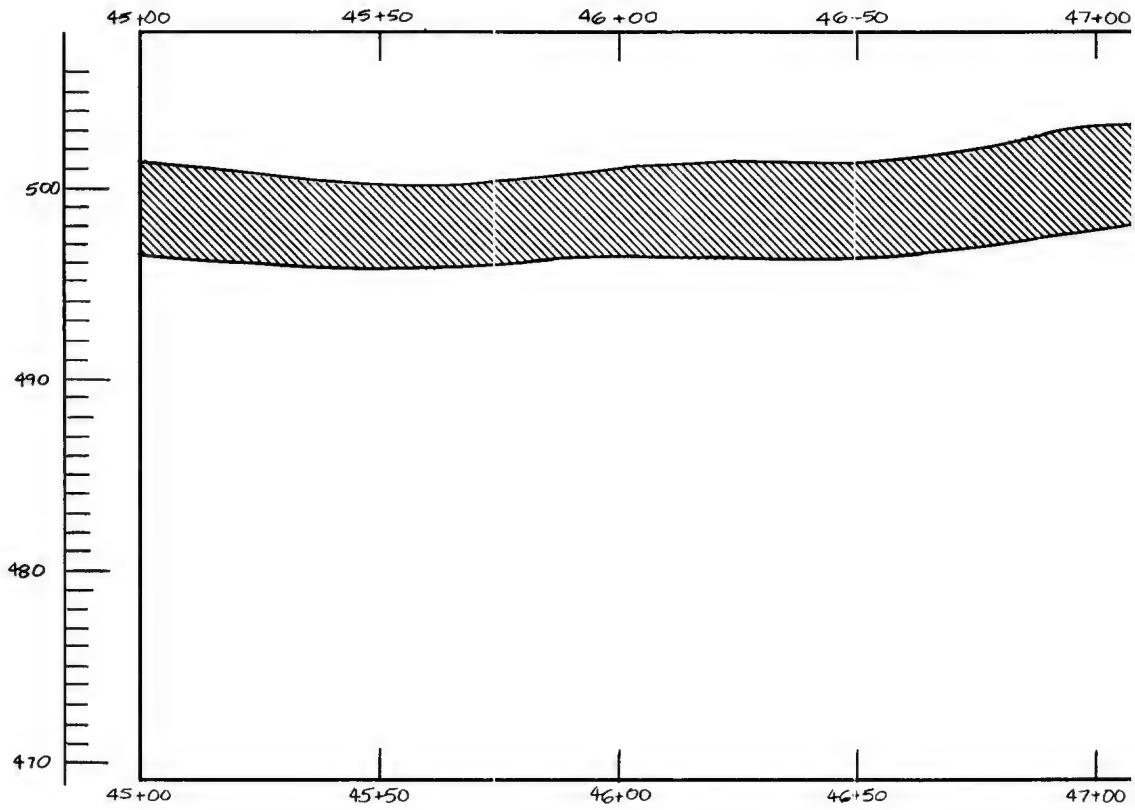
D

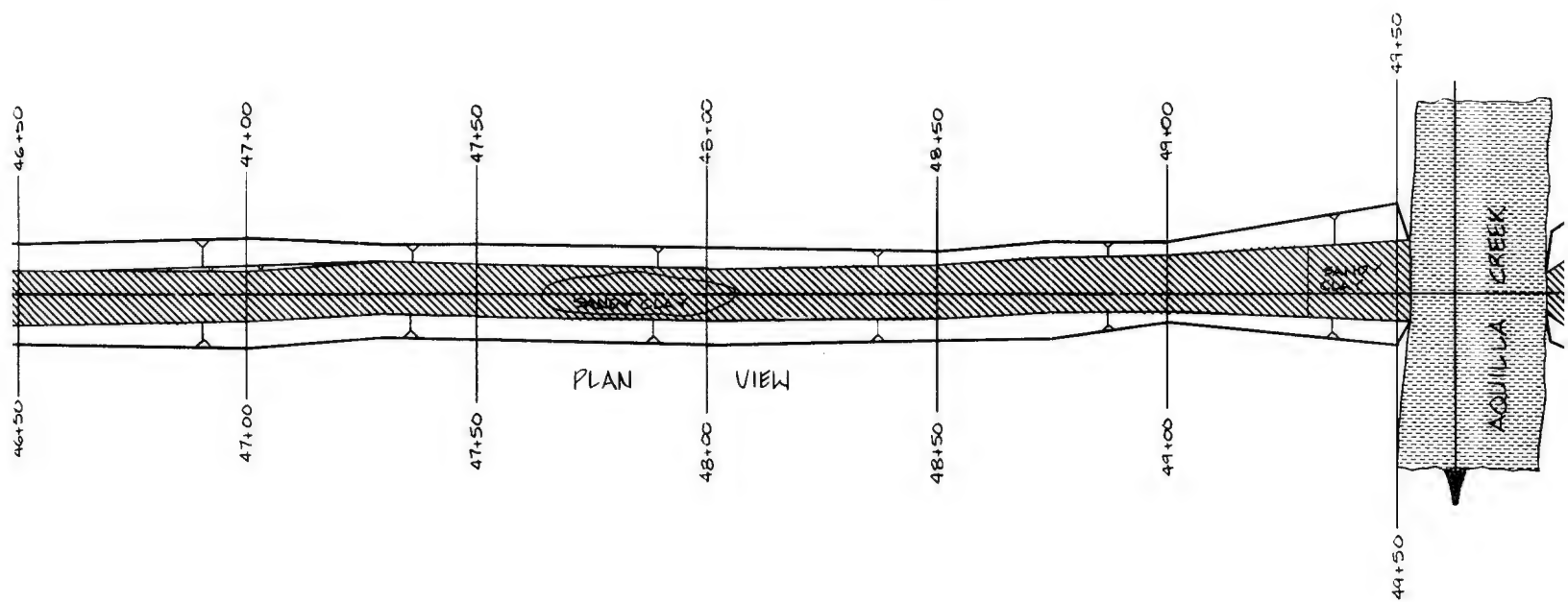
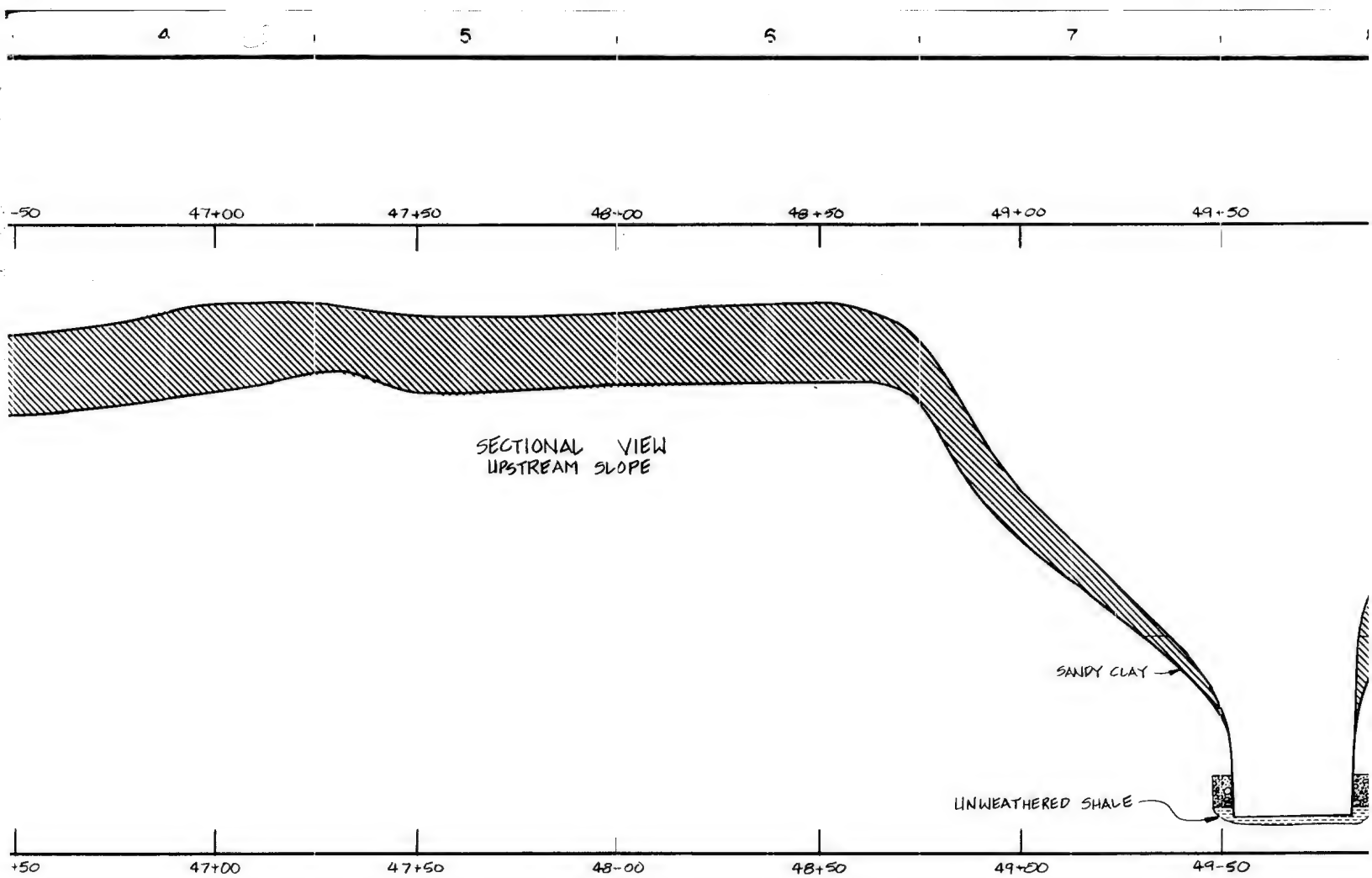
C

B

A

ELEVATION





NOTE:
1. FOR MAP SYMBOLS, REFER TO PLATE 16.

①

F

E

D

C

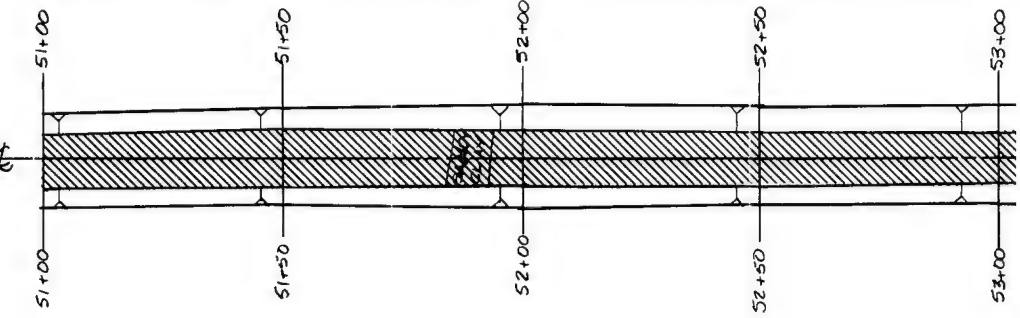
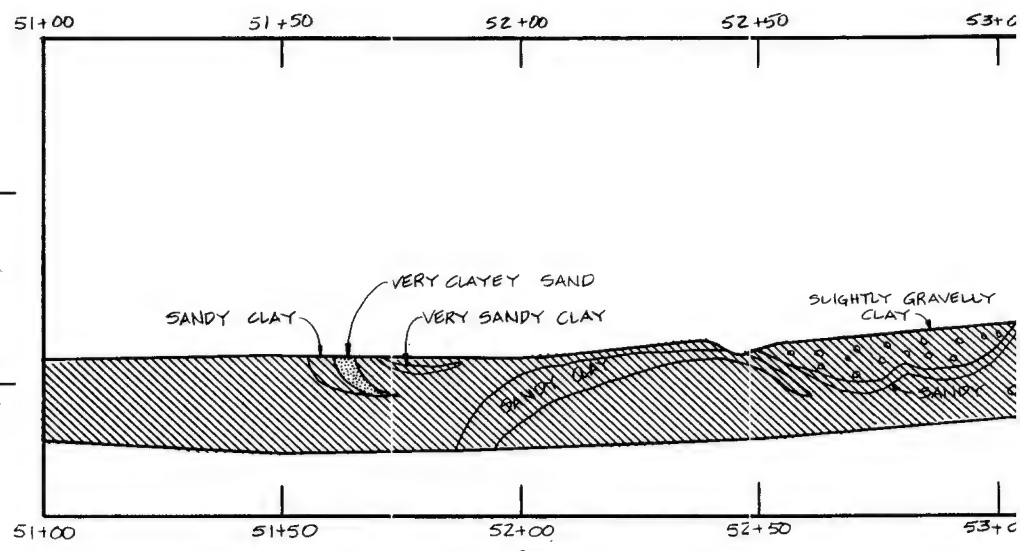
B

A

2 POLYTRACE 033

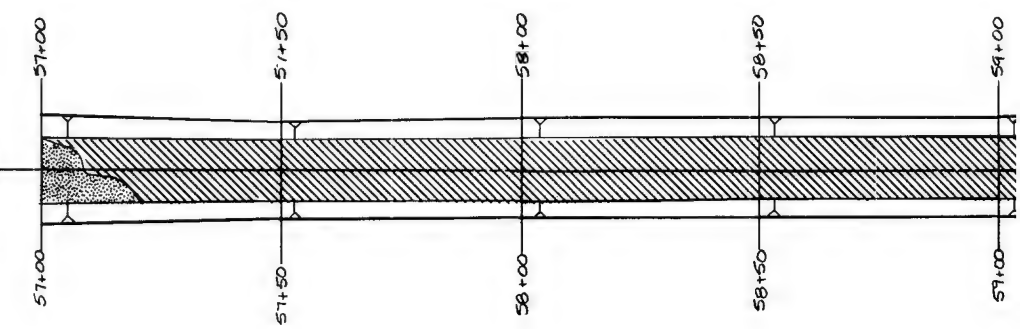
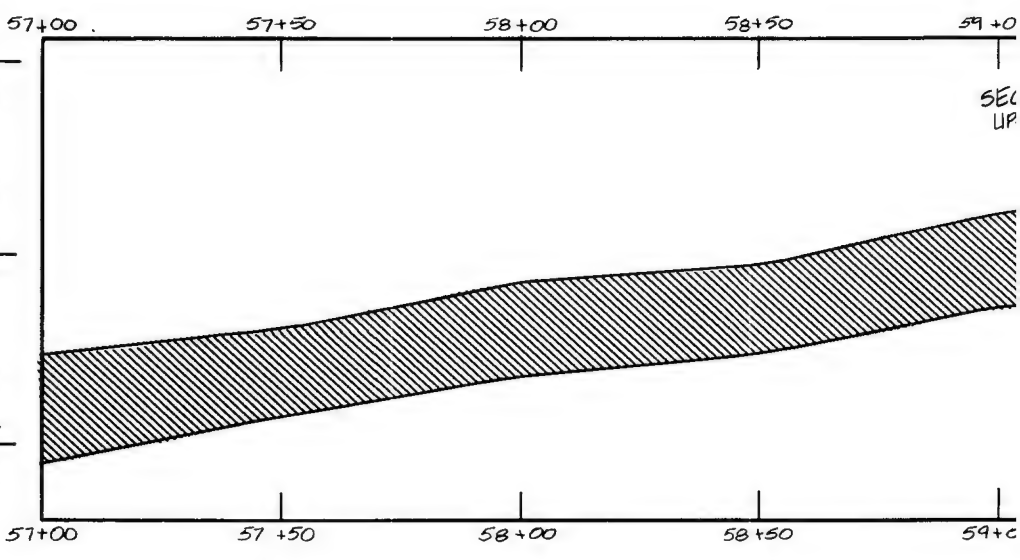
ELEVATION

510
500

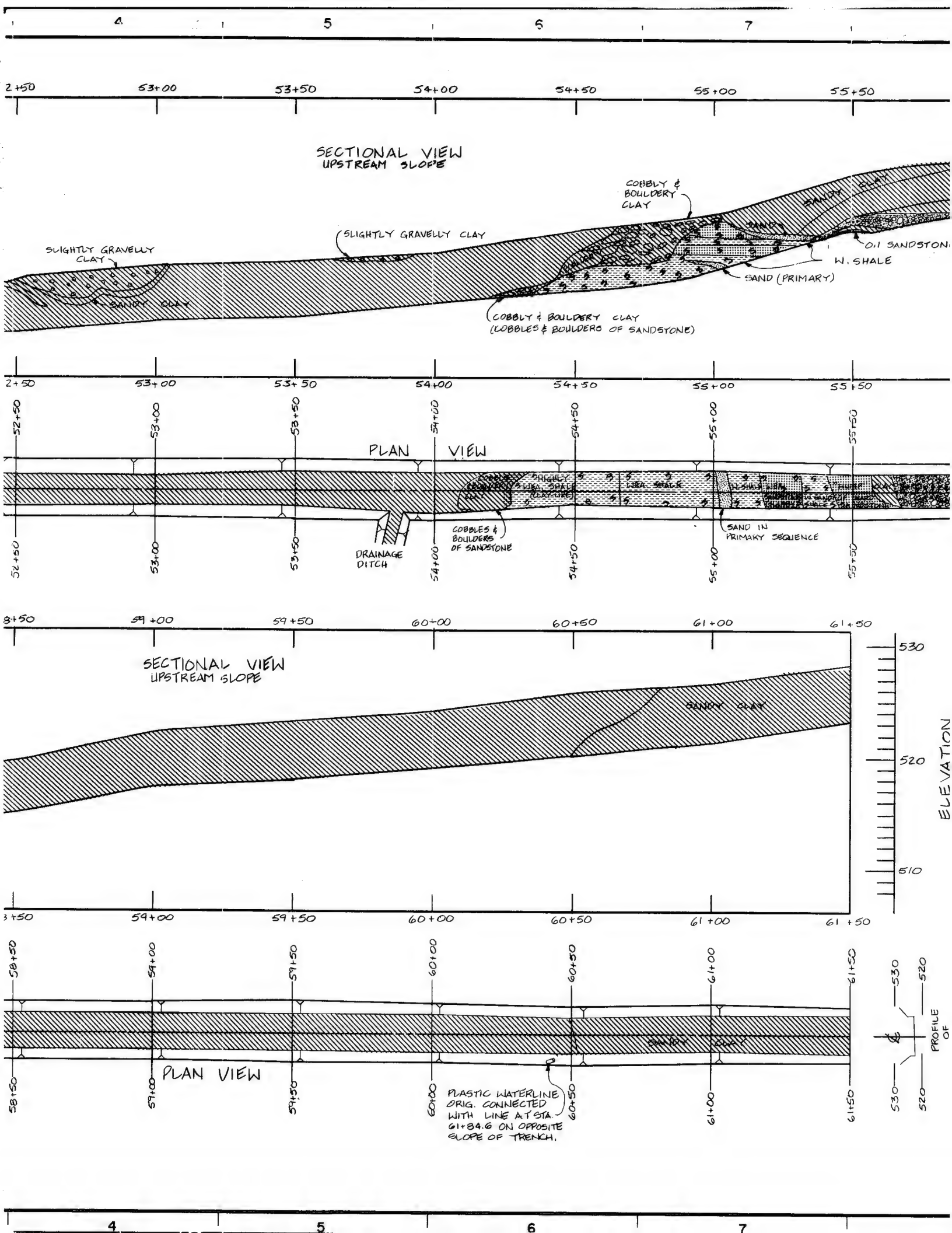


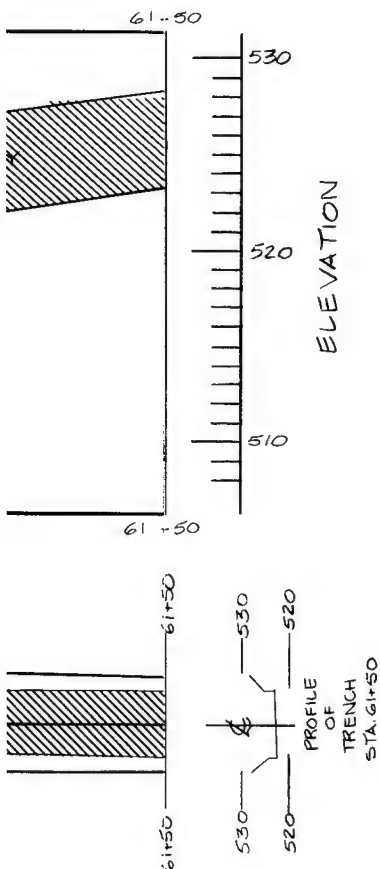
ELEVATION

530
520
510



SEC
UP





NOTE:

1. FOR MAP SYMBOLS, REFER TO PLATE 16.

SYN.	CD	NO.	ACTION	DATE	DESCRIPTION OF REVISION				
					U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS				
DESIGNED BY: <u>G. RUEBE</u>		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT INSPECTION TRENCH GEOLOGY AND EXCAVATION STA. 5I + 00.00 TO STA. 6I + 50.00							
DRAWN BY: <u>C. KIRBY</u>									
REVIEWED BY: <u>R. BEHM</u>									
SUBMITTED BY: <u>ROBERT BEHM</u>									
ENGINEER:									
INVITATION NO.					DATE:				
CONTRACT NO.									
DRAWING NUMBER					SHEET NO. OF		SEQUENCE NO.		

①

F

E

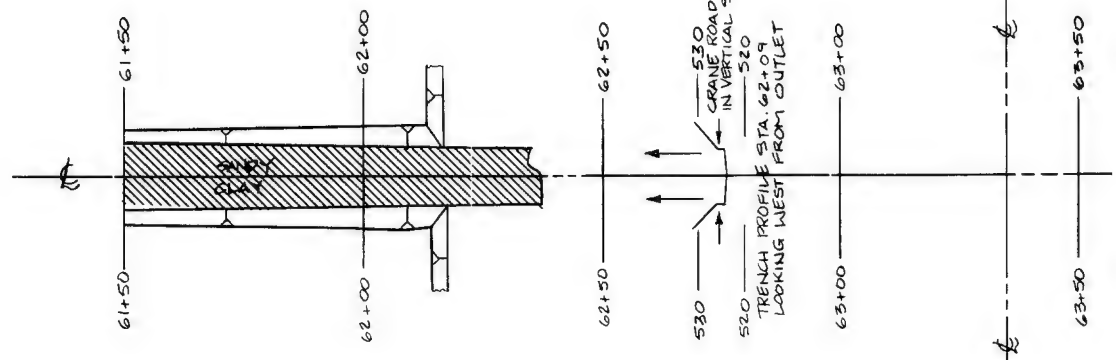
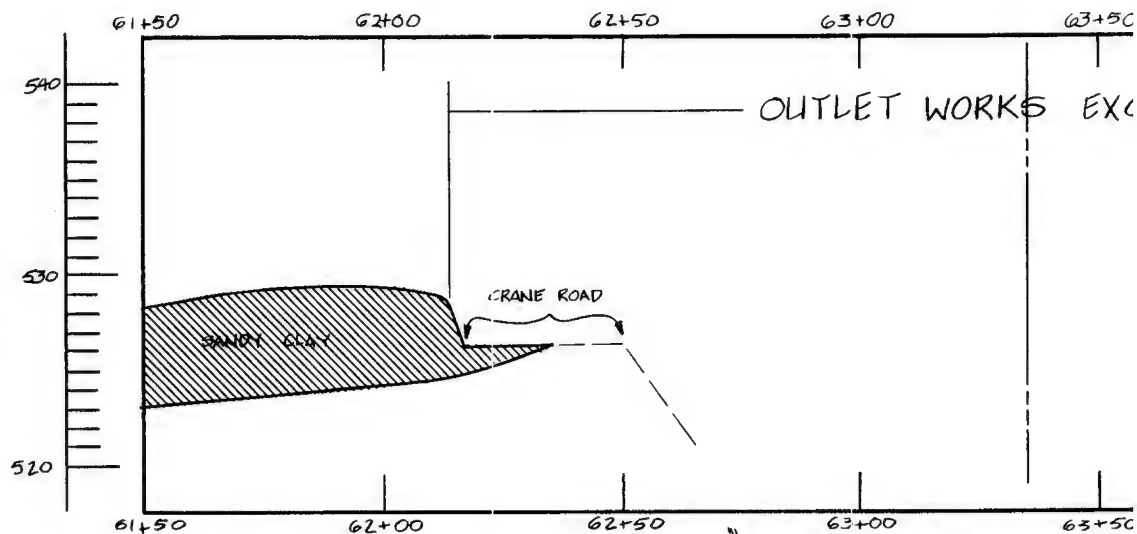
D

C

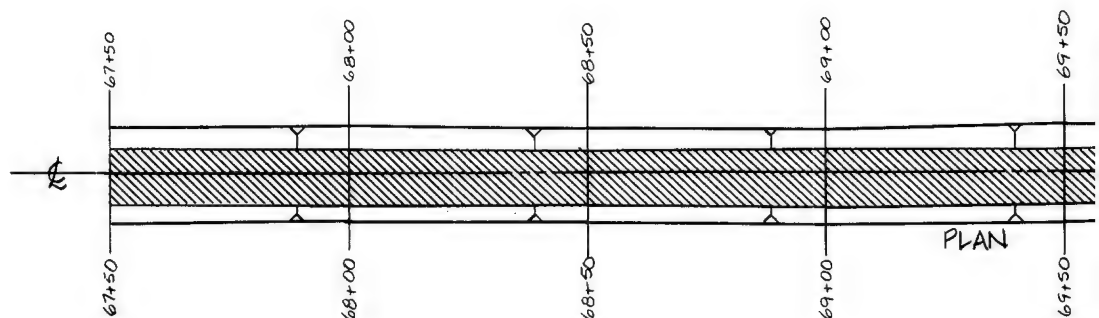
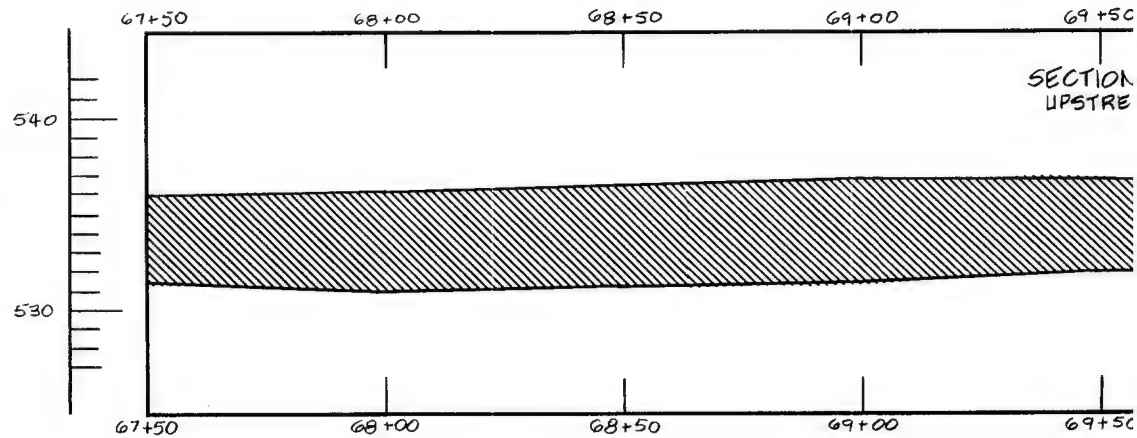
B

A

ELEVATION

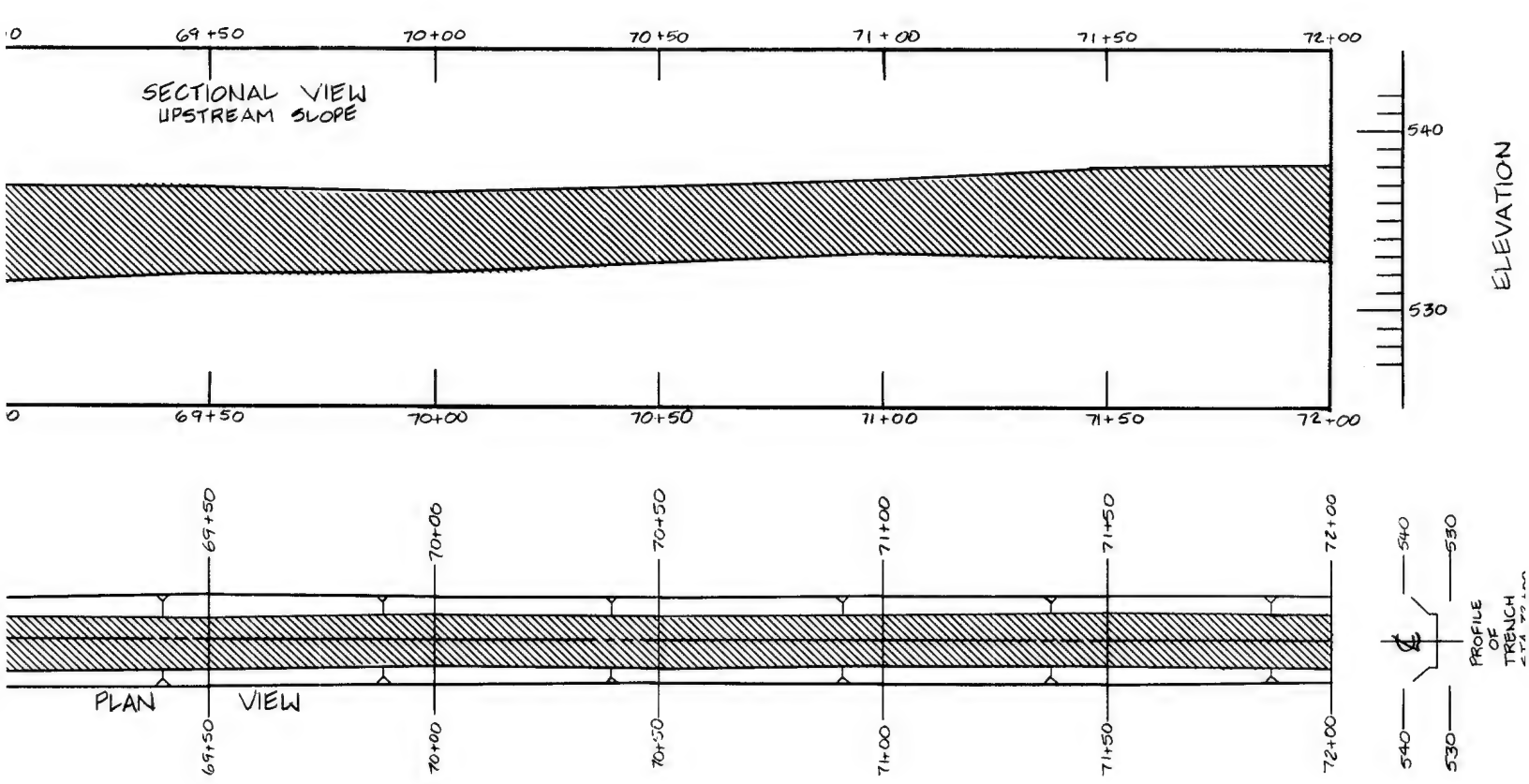
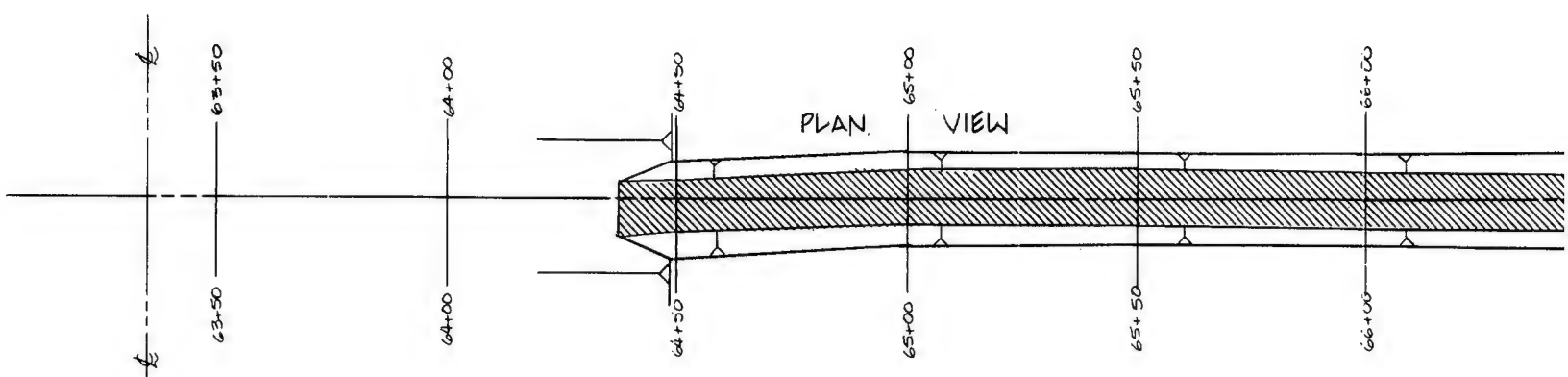
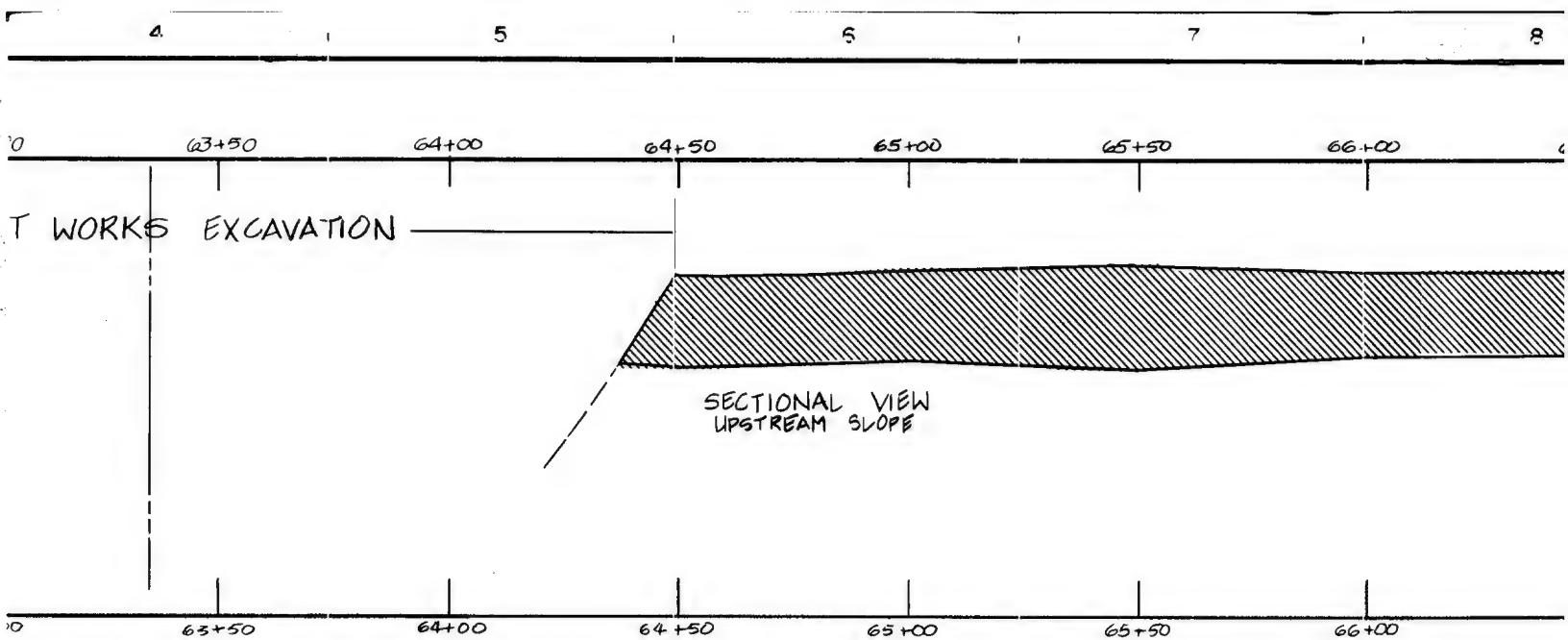


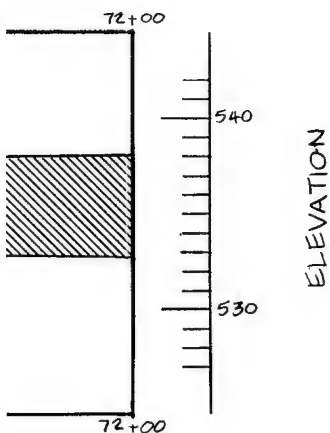
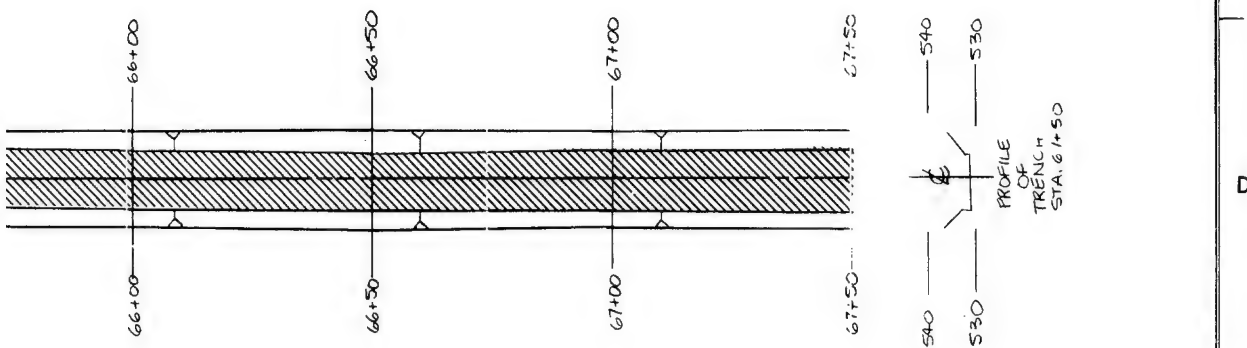
ELEVATION



SECTION
UPSTRE

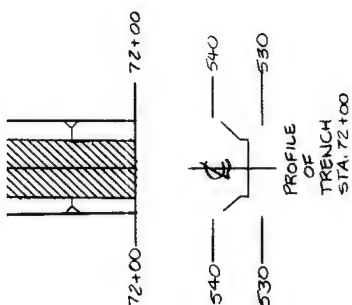
PLAN



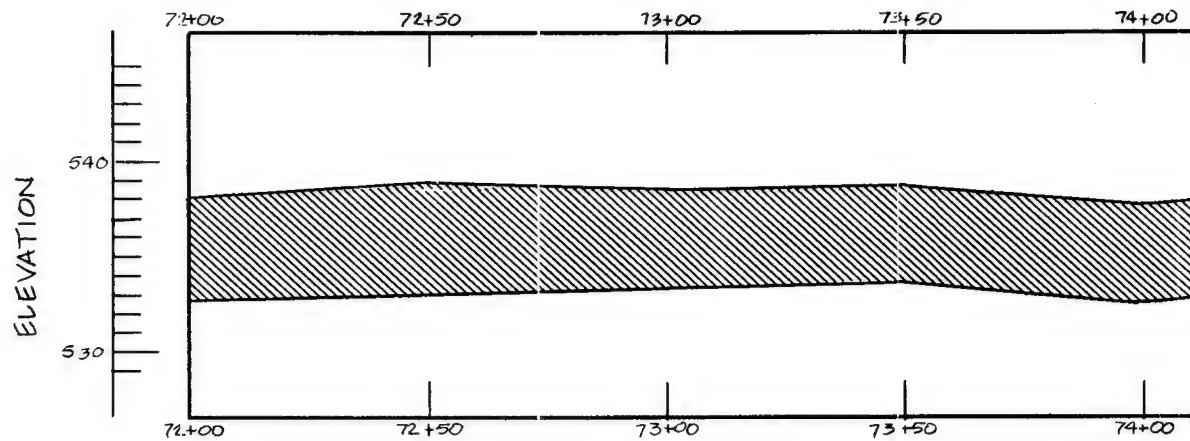


NOTE :

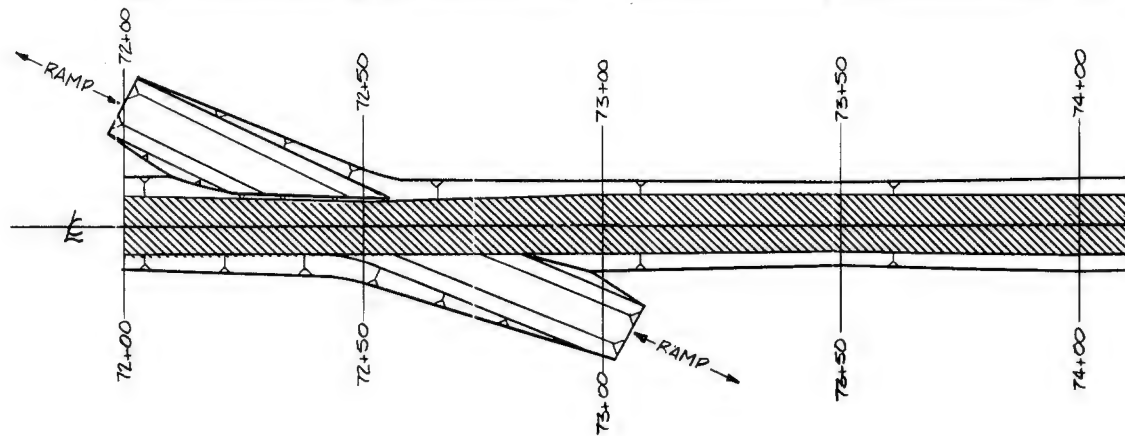
1. FOR MAP SYMBOLS, REFER TO PLATE 16.

[illegible]

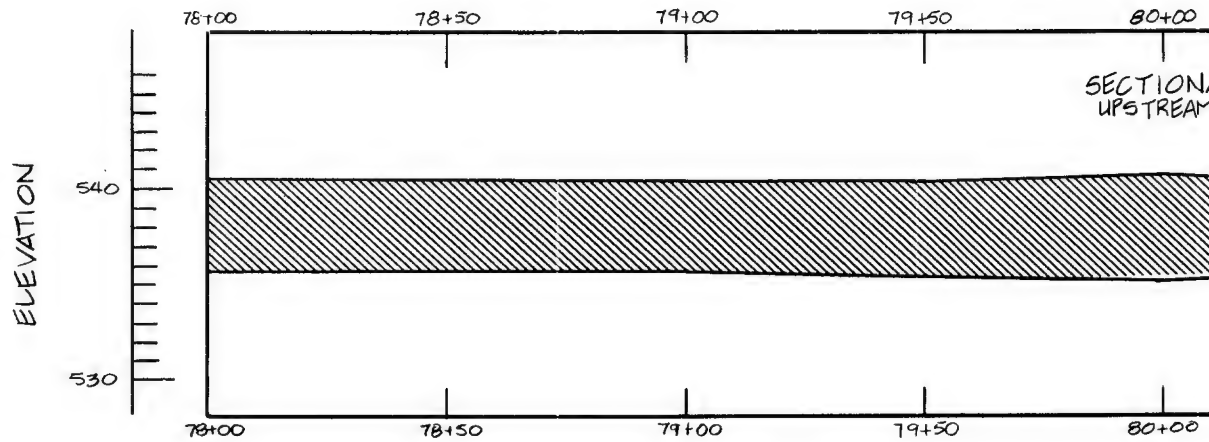
F



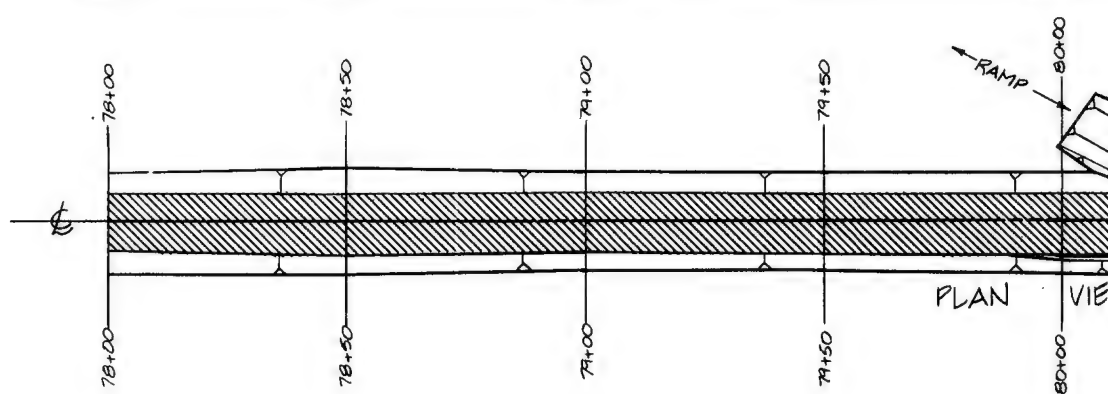
E



D



C

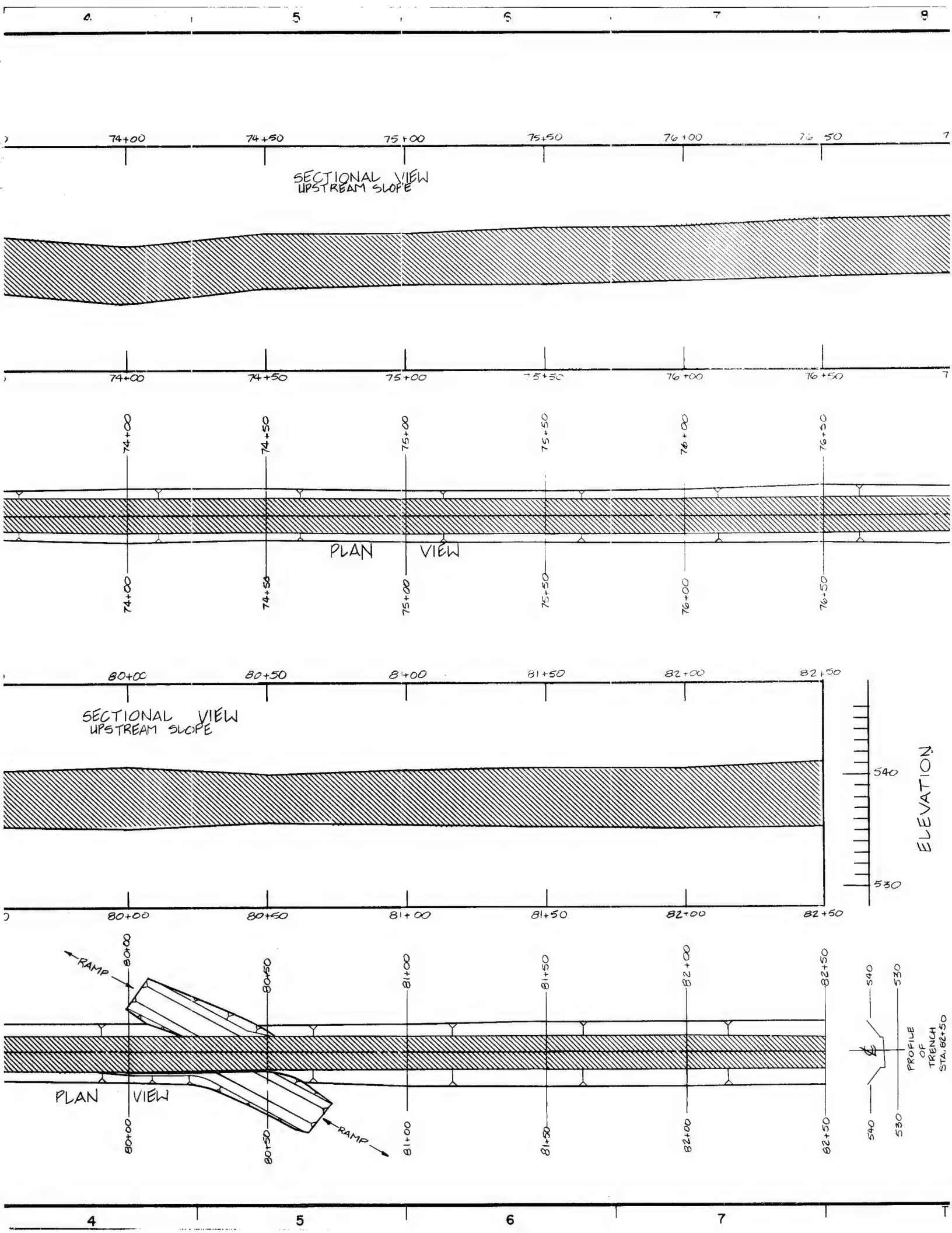


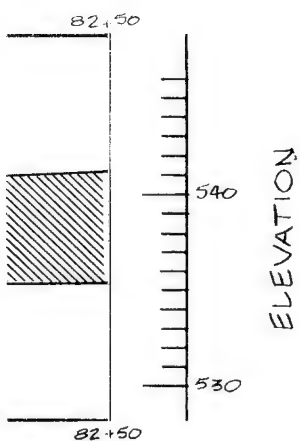
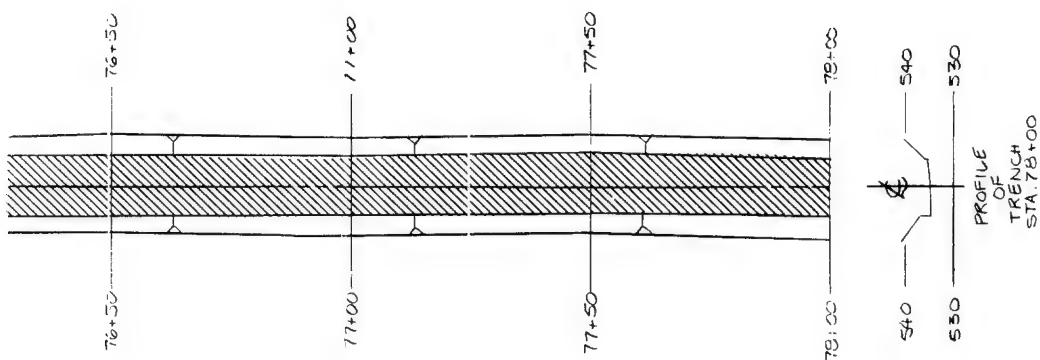
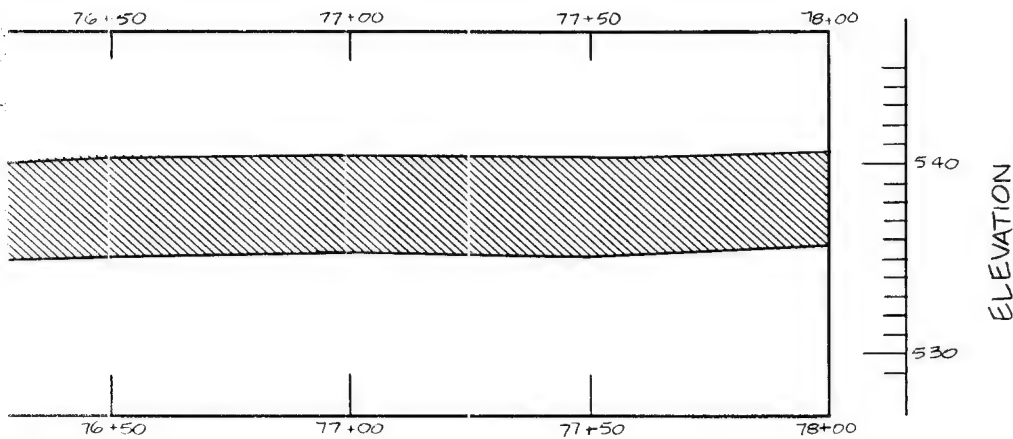
B

A

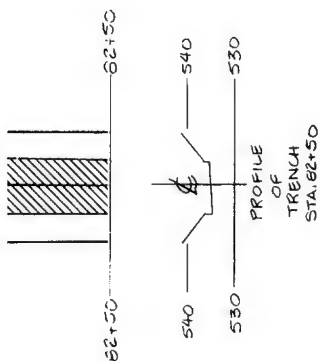
SECTION, UPSTREAM

PLAN VIEW





NOTE:
1. FOR MAP SYMBOLS, REFER TO PLATE 16.



SYM.		DO.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
						U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS
DESIGNED BY:		AQUILLA LAKE				
G. RUEDE		AQUILLA AND HACKBERRY CREEKS, TEXAS				
DRAWN BY:		FINAL FOUNDATION REPORT				
C. KIRBY		INSPECTION TRENCH				
REVIEWED BY:		GEOLOGY AND EXCAVATION				
R. BEHM		STA. 72+00.00 TO STA. 82+50.00				
SUBMITTED BY:		INVITATION NO.		DATE:		
ROBERT BEHM						
ENGINEER:		CONTRACT NO.		SEQUENCE NO.		
		DRAWING NUMBER		SHEET NO. OF		

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 26

1

2

3

4

F

ELEVATION

540

530

82+50

83+00

83+50

84+00

84+50

82+50

83+00

83+50

84+00

84+50

SE
UP

E

D

82+50

83+00

83+50

84+00

84+50

82+50

83+00

83+50

84+00

84+50

C

ELEVATION

550

540

88+50

89+00

89+50

90+00

90+50

88+50

89+00

89+50

90+00

90+50

SEC
UP

B

A

88+50

89+00

89+50

90+00

90+50

88+50

89+00

89+50

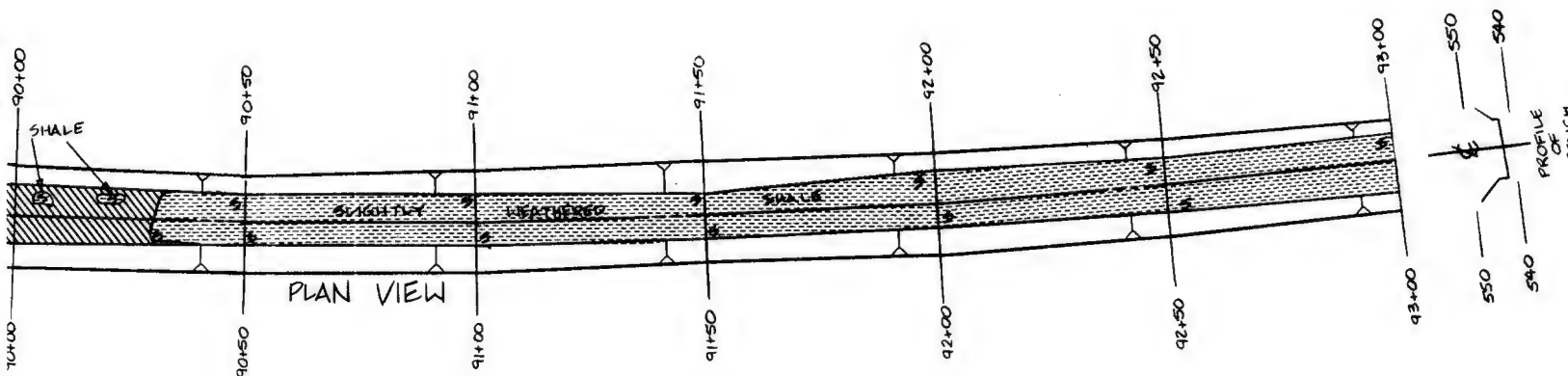
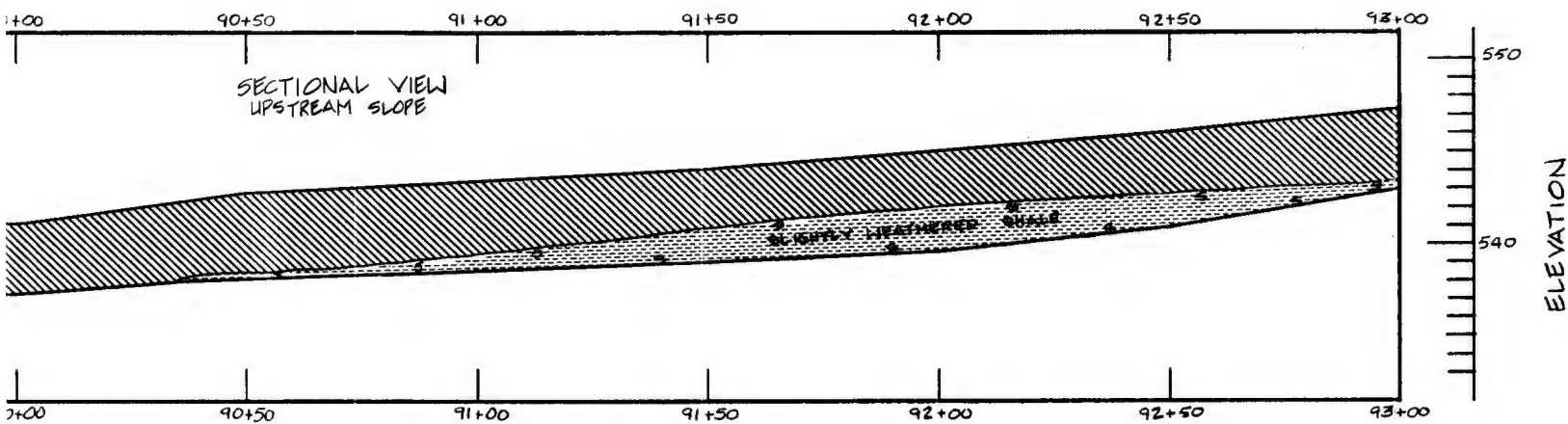
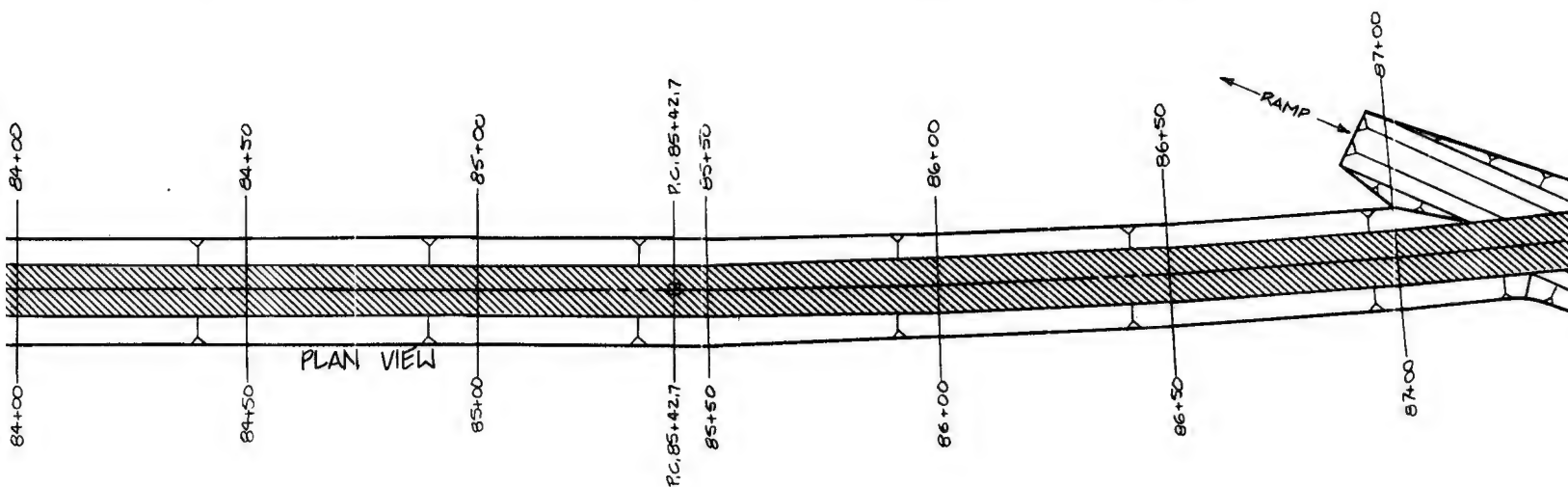
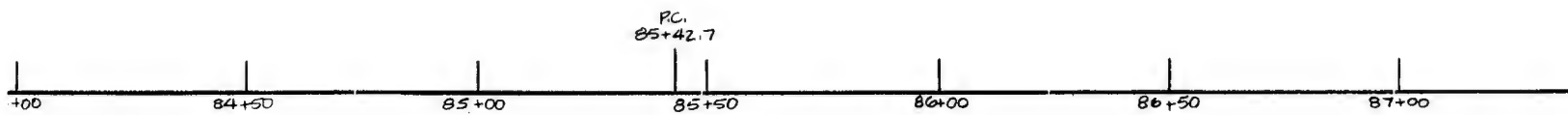
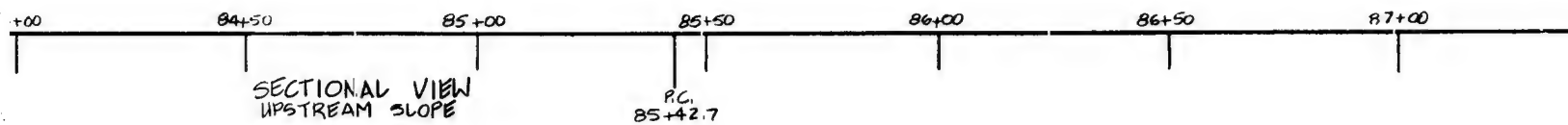
90+00

90+50

WEATHERED
SHALE

WEATHERED
SHALE

1. PROFILE 011



F

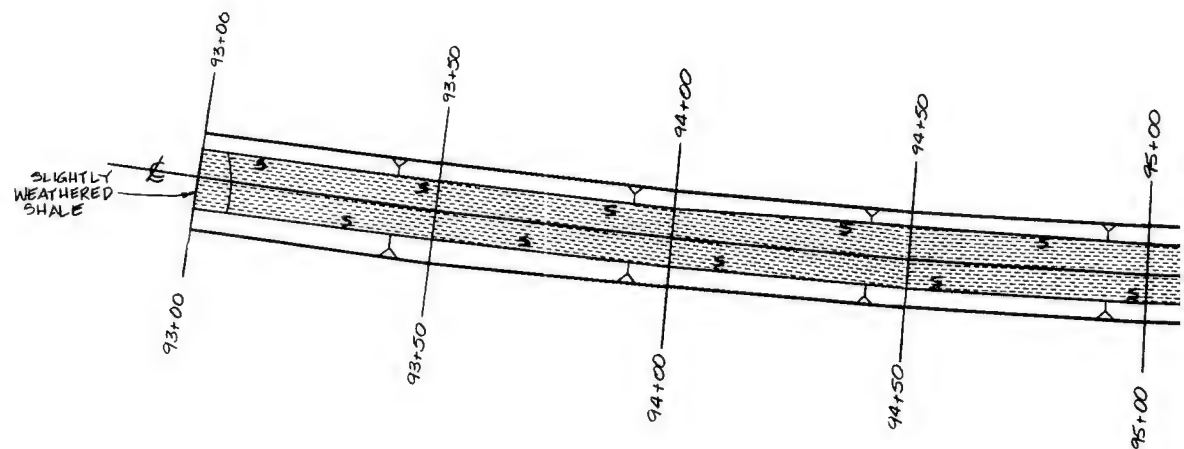
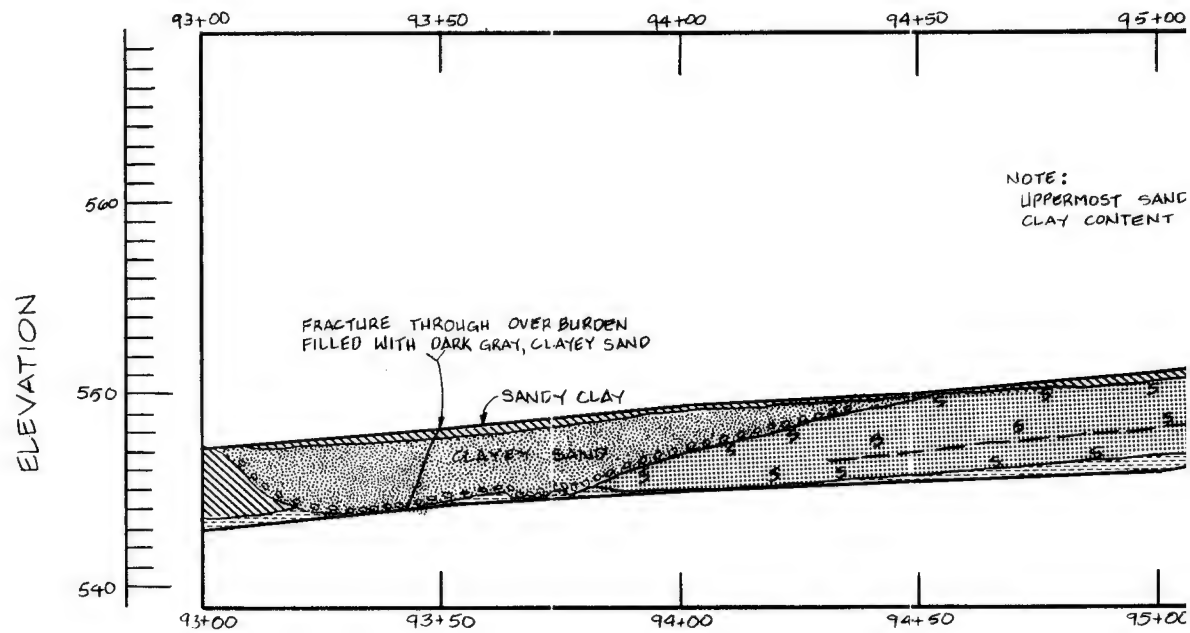
E

D

C

B

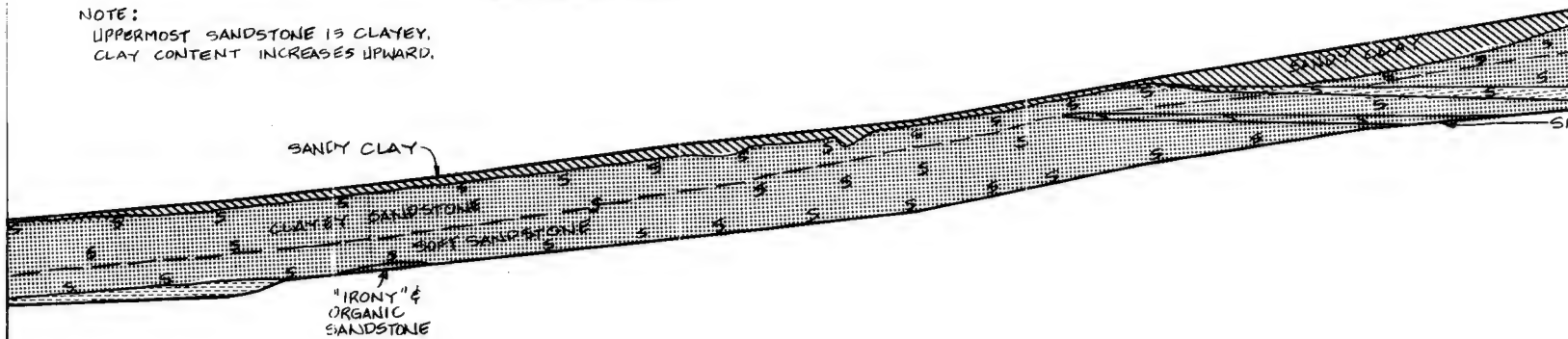
A



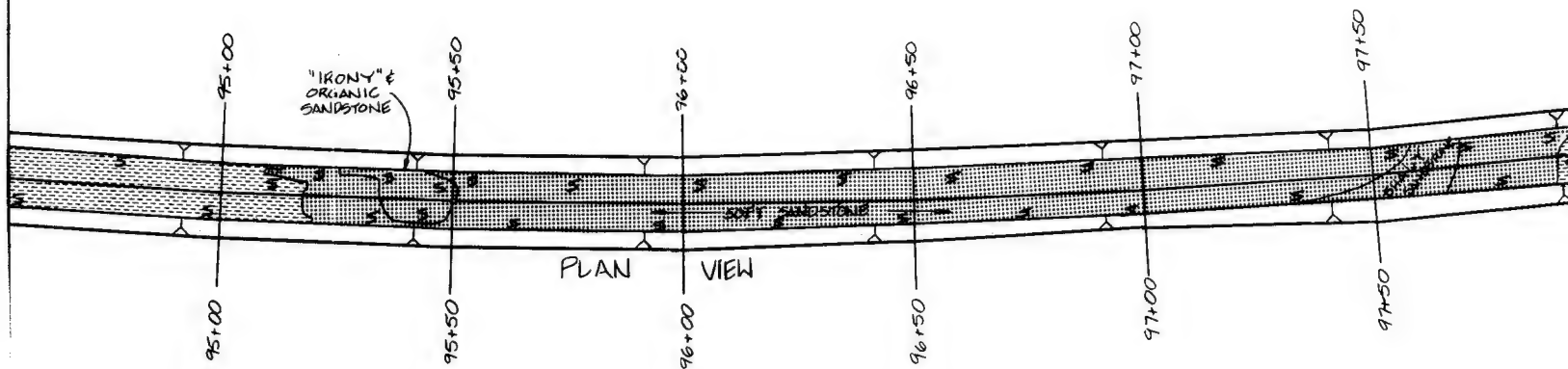
50 95+00 95+50 96+00 96+50 97+00 97+50

SECTIONAL VIEW
UPSTREAM SLOPE

NOTE:
UPPERMOST SANDSTONE IS CLAYEY.
CLAY CONTENT INCREASES UPWARD.



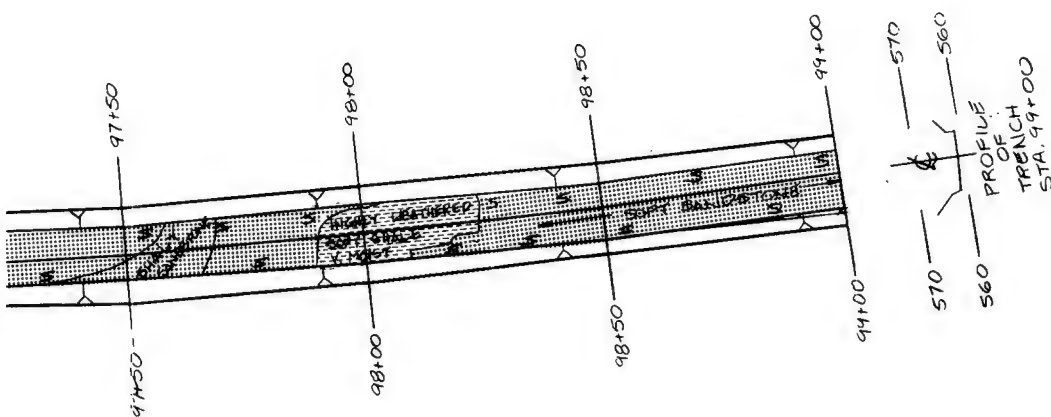
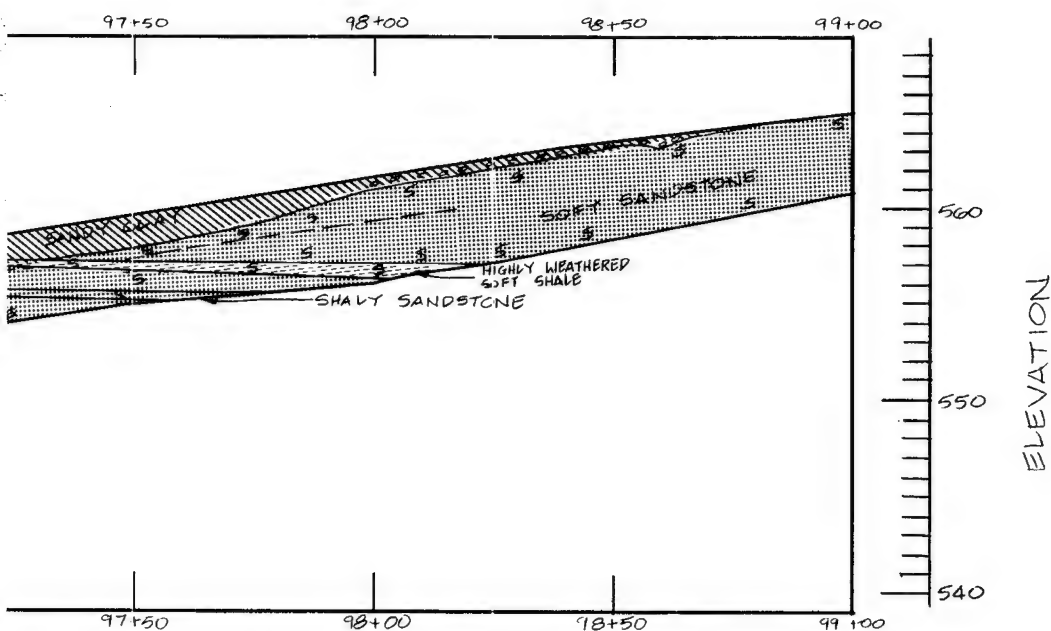
50 95+00 95+50 96+00 96+50 97+00 97+50



PLAN VIEW

NOTE:

1. FOR MAP SYMBOLS, REFER TO PI



MAP SYMBOLS, REFER TO PLATE 16.

SYM.	DR NO.	ACTION	DATE	DESCRIPTION OF REVISION					
				U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS					
DESIGNED BY: <u>G. RUSSO</u>		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT INSPECTION TRENCH GEOLOGY AND EXCAVATION STA.93 + 00.00 TO STA.99 + 00.00							
DRAWN BY: <u>C. KIRBY</u>									
REVIEWED BY: <u>R. BEHM</u>									
SUBMITTED BY: <u>ROBERT BEHM</u>									
ENGINEER:		INVITATION NO.		DATE:				SEQUENCE NO.	
		CONTRACT NO.						SHEET NO. OF	
		DRAWING NUMBER							

①

F

E

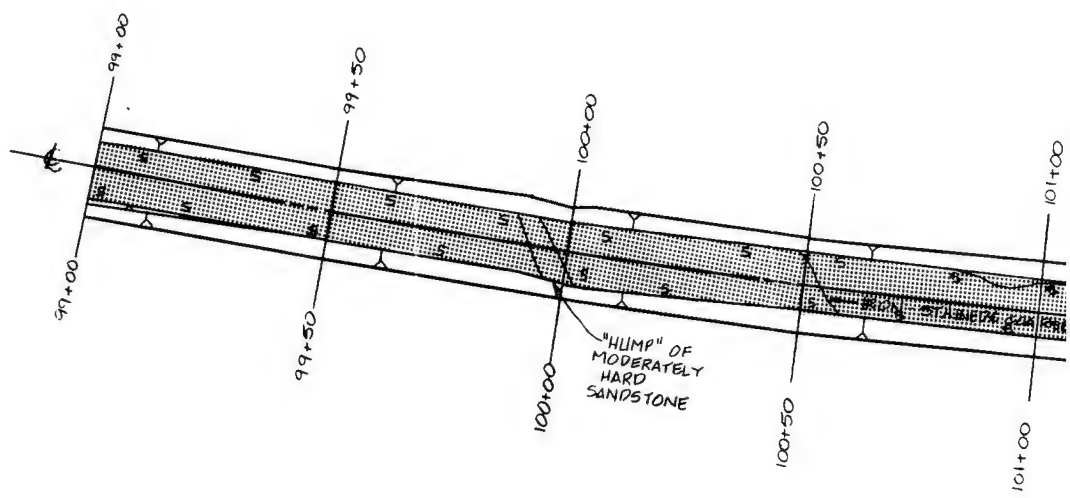
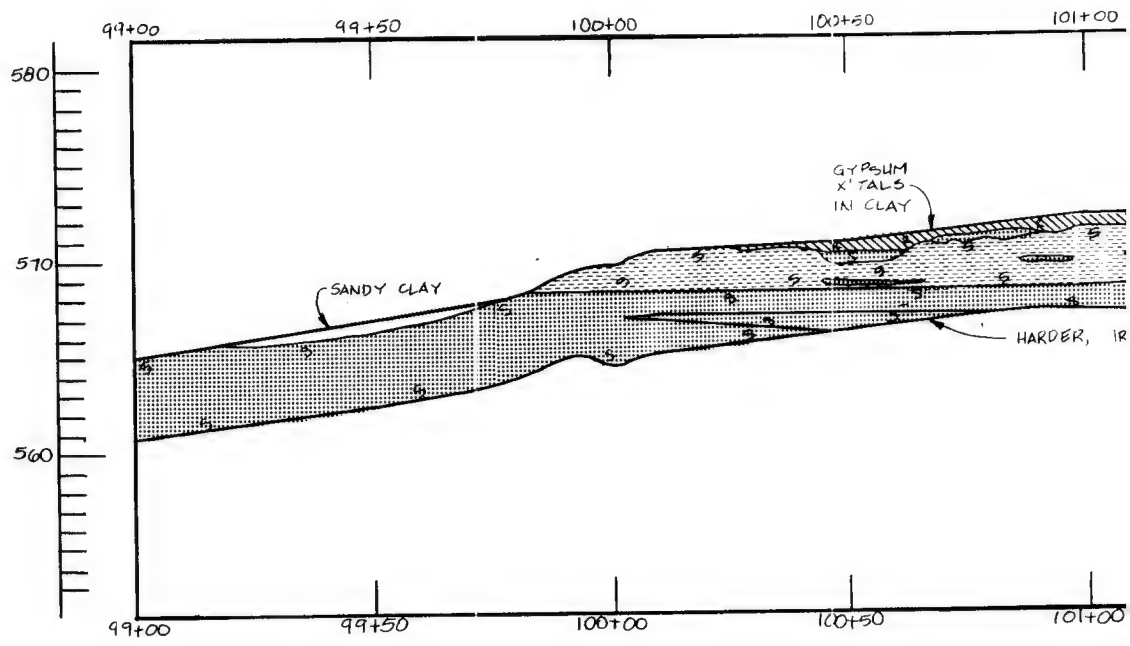
D

C

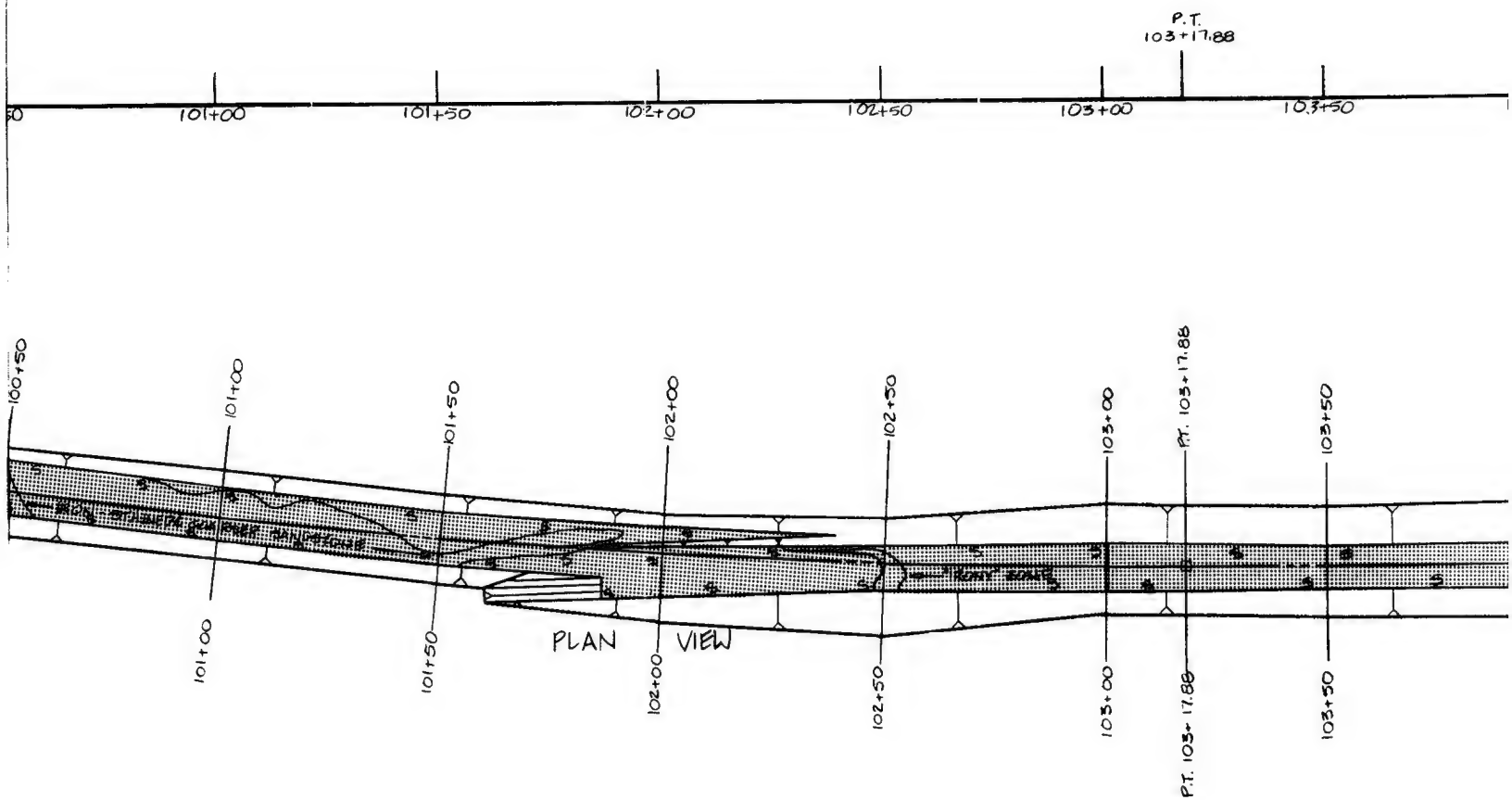
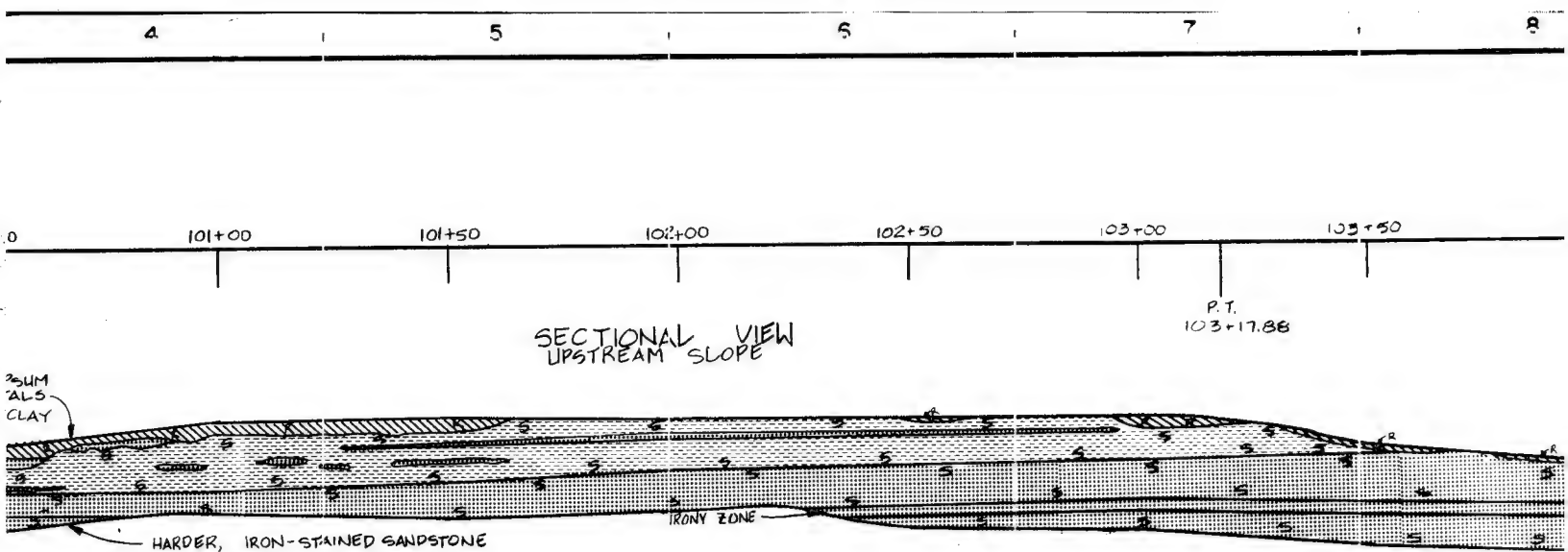
B

A

ELEVATION



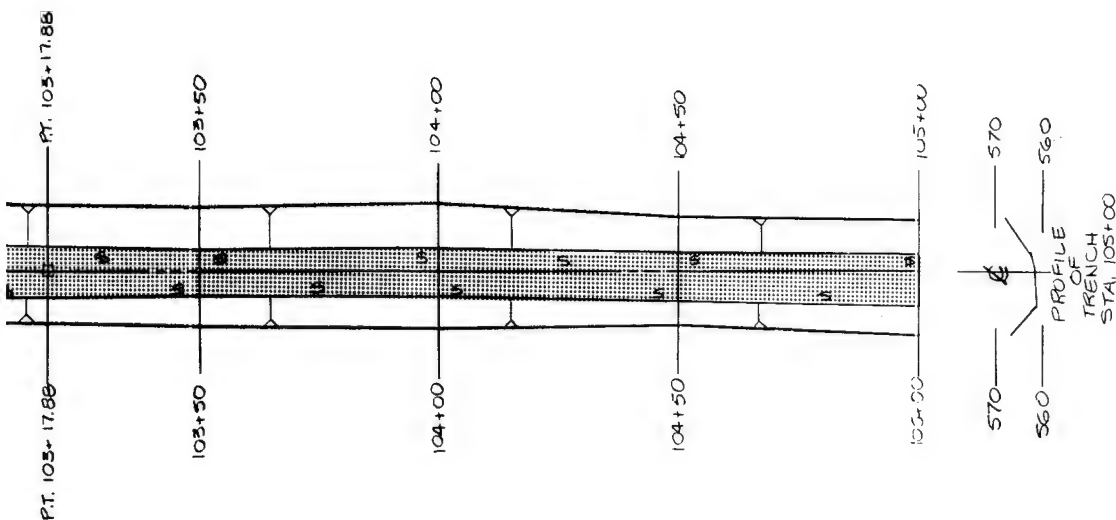
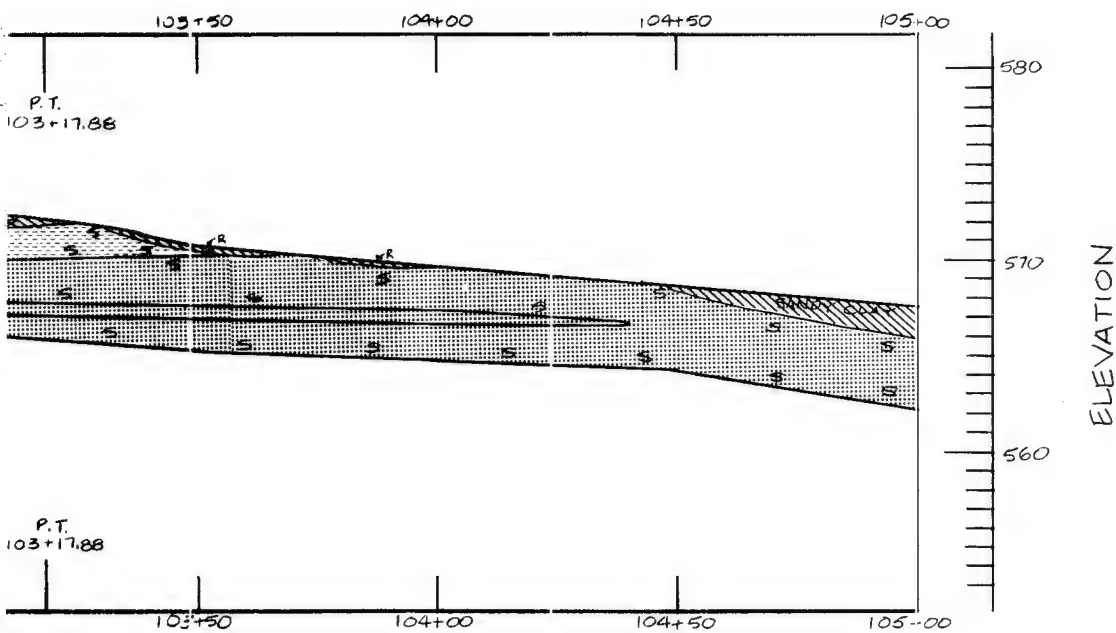
POLYTRAF 033



NOTE:

1. FOR MAP SYMBOLS, REFER TO F

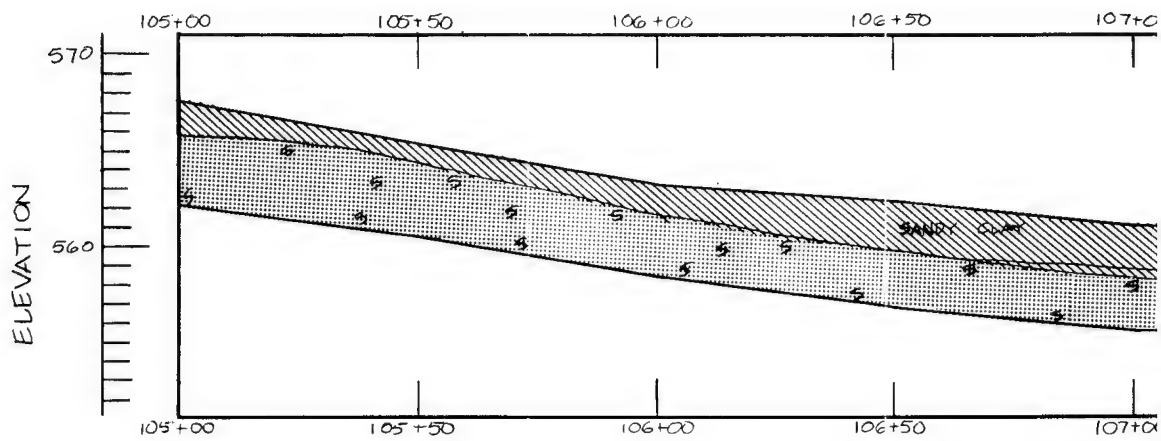




OTE:
FOR MAP SYMBOLS, REFER TO PLATE 16.

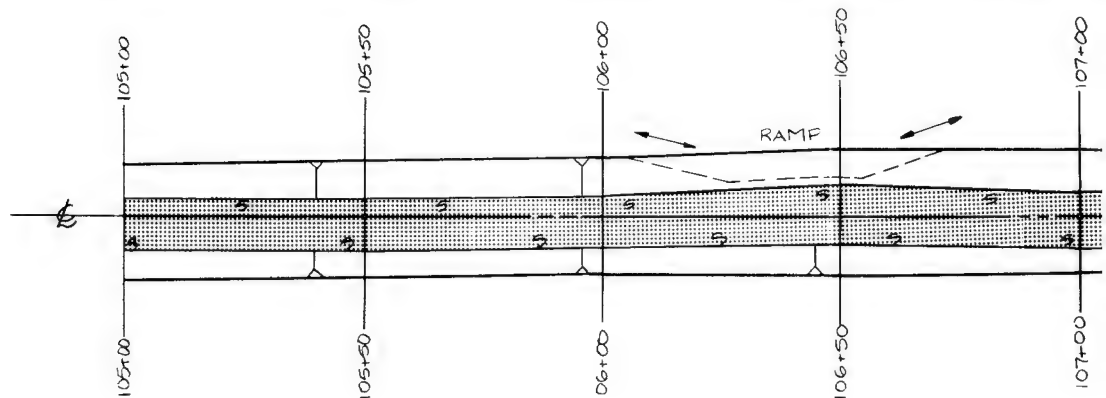
[illegible]

F

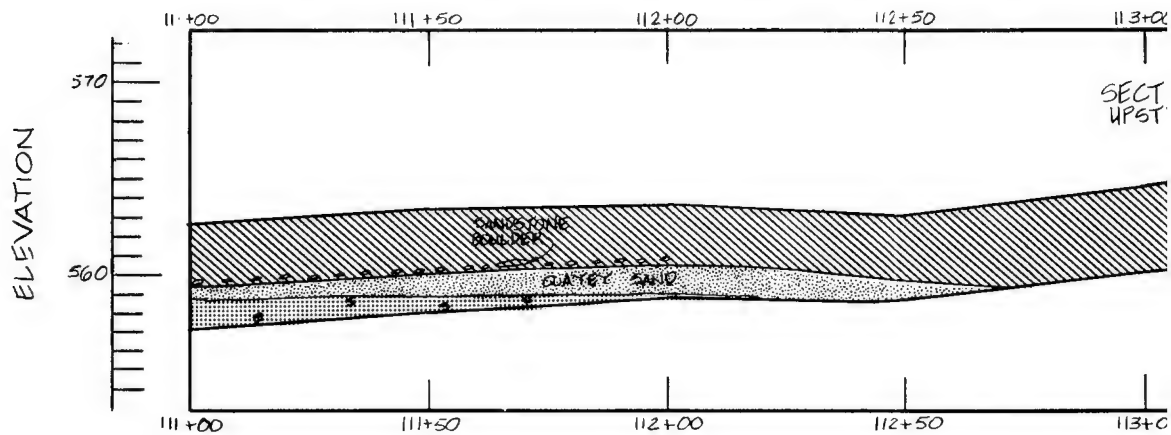


E

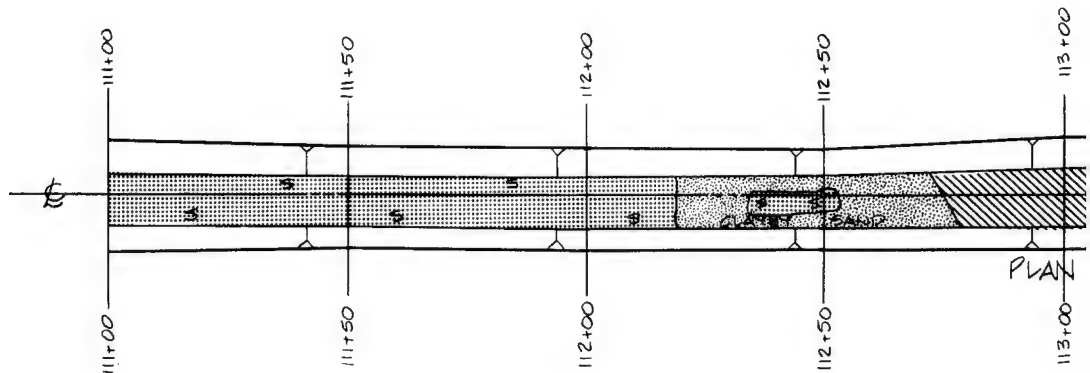
D



C



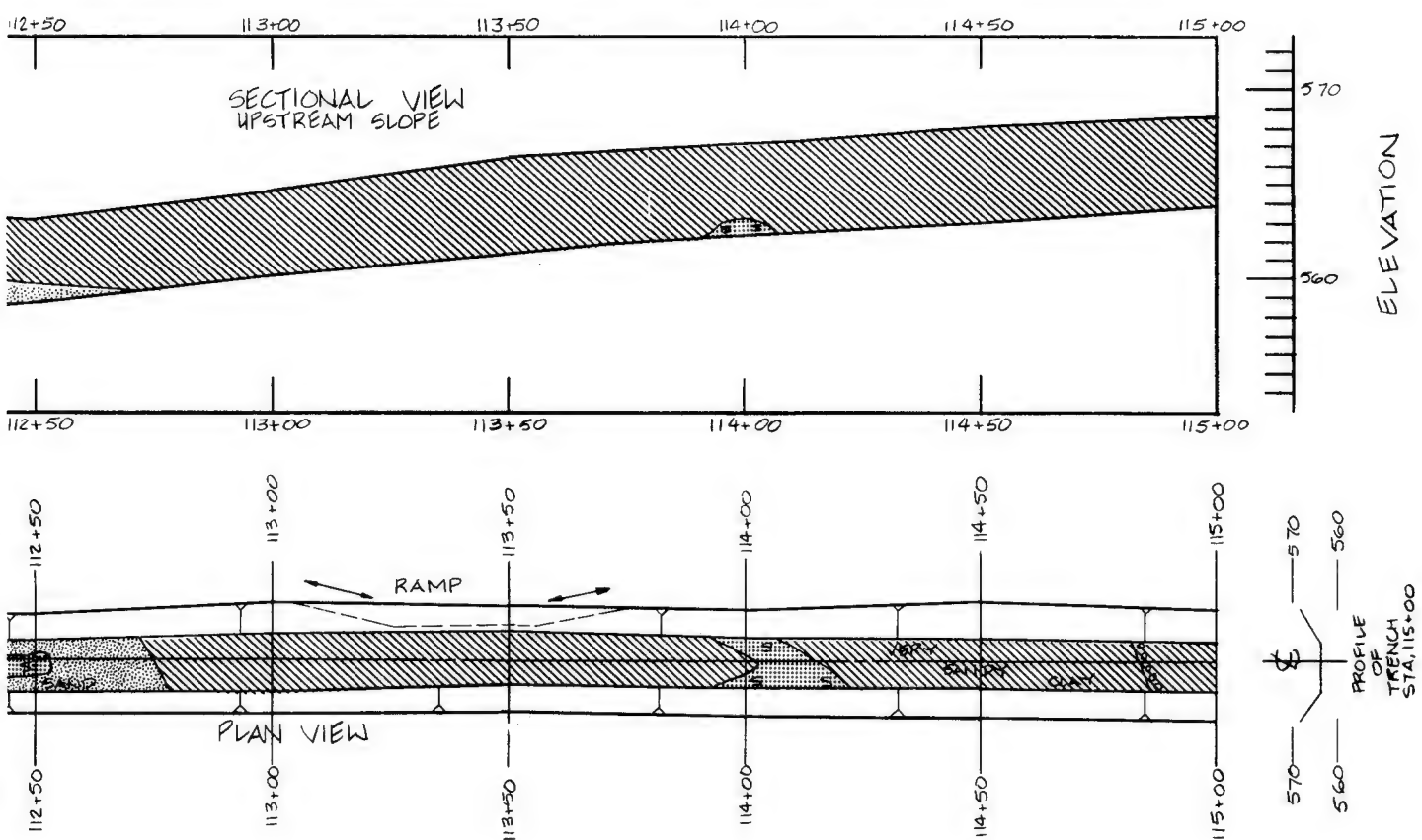
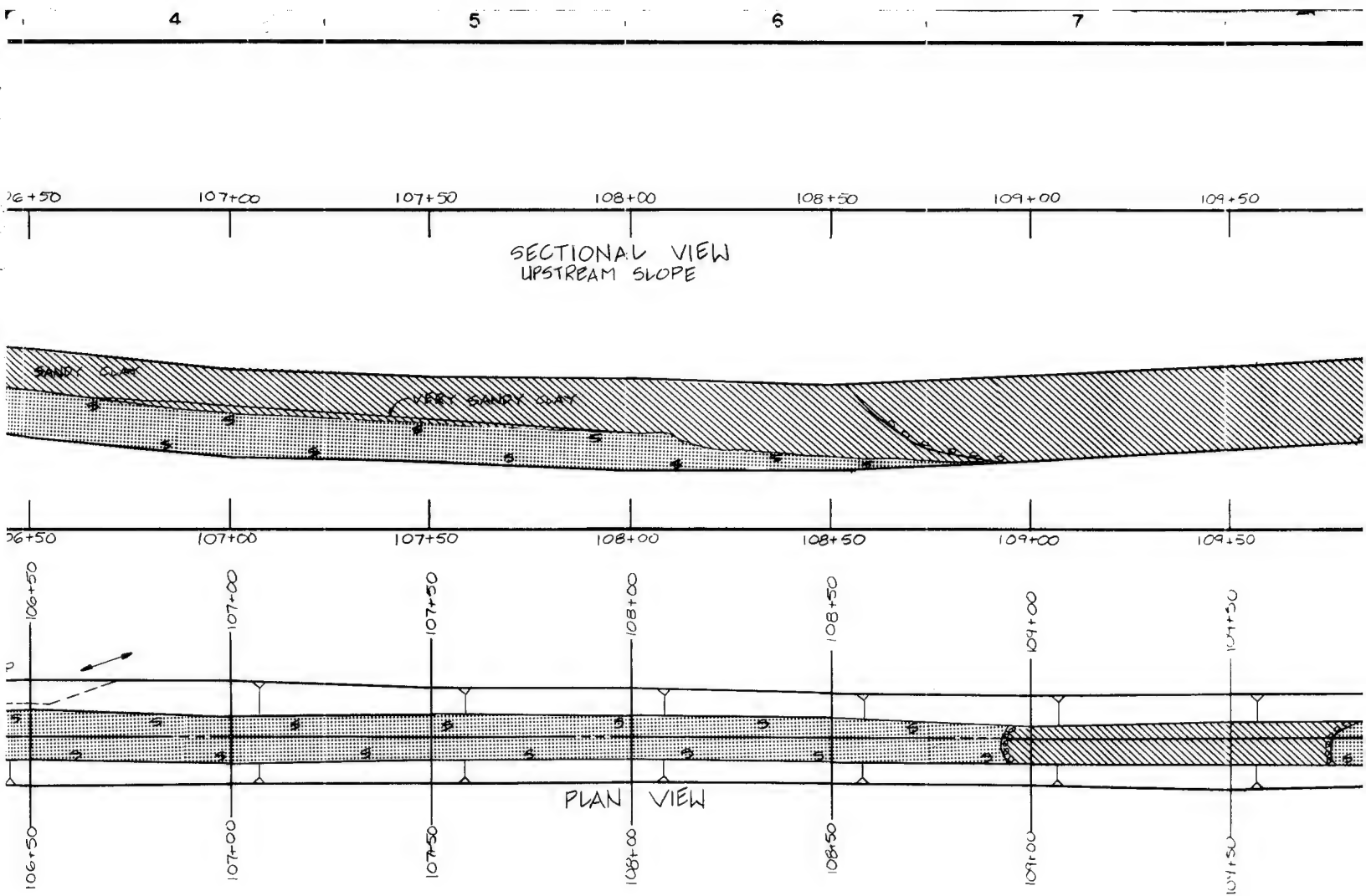
B

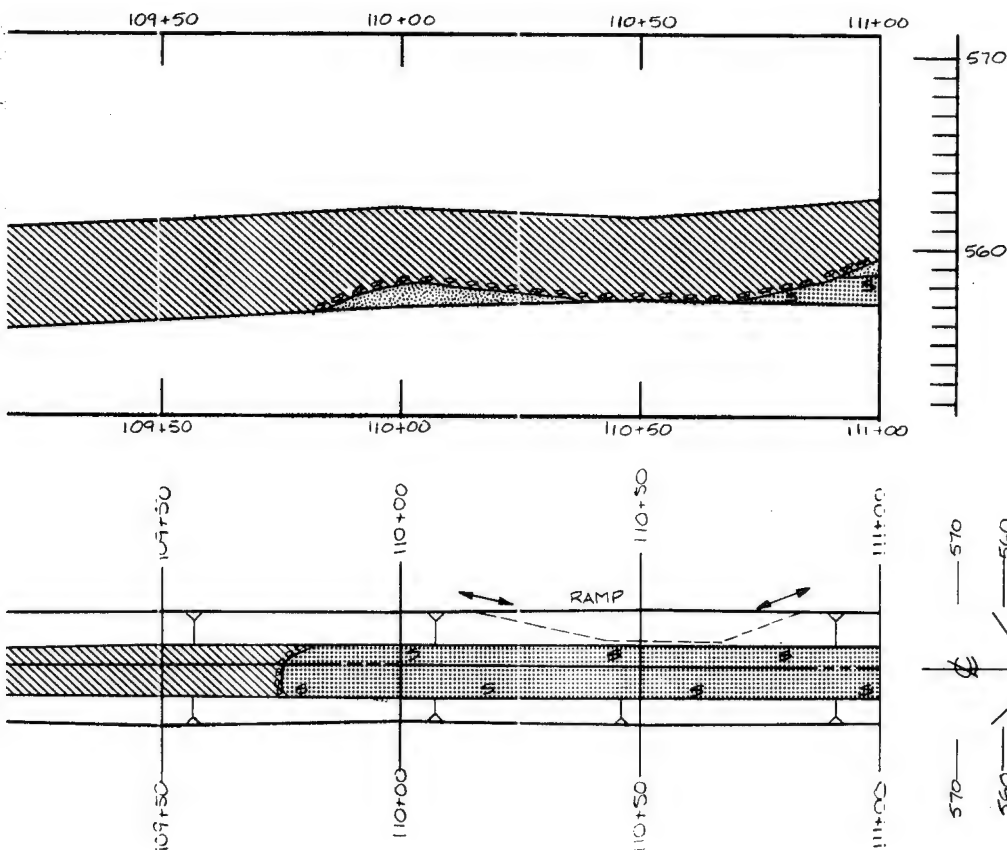


A

2 POLYTRAC 933

PLAN





570
ELEVATION
560

NOTE:
1. FOR MAP SYMBOLS, REFER TO PLATE 16.

560
PROFILE
OF
TRENCH
STA. 115+00
560

SYN. DA. NO.		ACTION		DATE		DESCRIPTION OF REVISION	
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS							
DESIGNED BY: G. RUEDE		AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT INSPECTION TRENCH GEOLOGY AND EXCAVATION STA. 105+00.00 TO STA. 115+00.00					
DRAWN BY: C. KIRBY							
REVIEWED BY: R. BEHM							
SUBMITTED BY: ROBERT BEHM		INVITATION NO.		DATE:		SEQUENCE NO.	
ENGINEER:		CONTRACT NO.		DRAWING NUMBER		SHEET NO. OF	

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 30

1

F

E

D

C

B

A

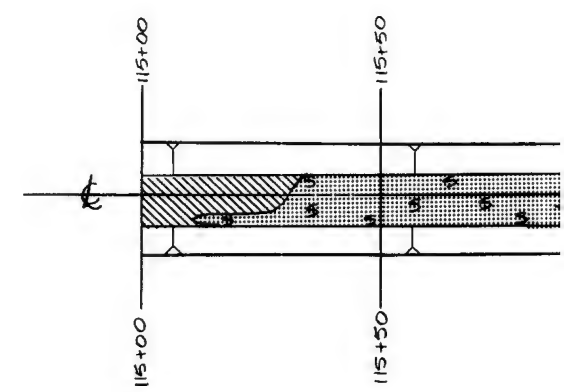
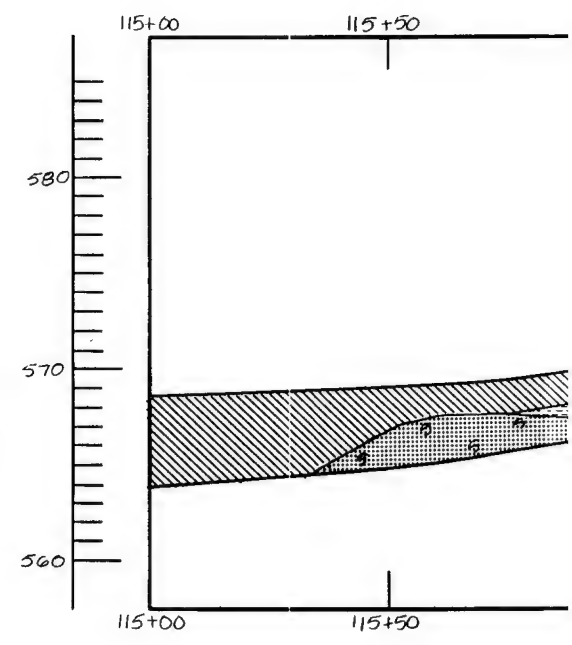
POLYTRACE 035

2

3

4

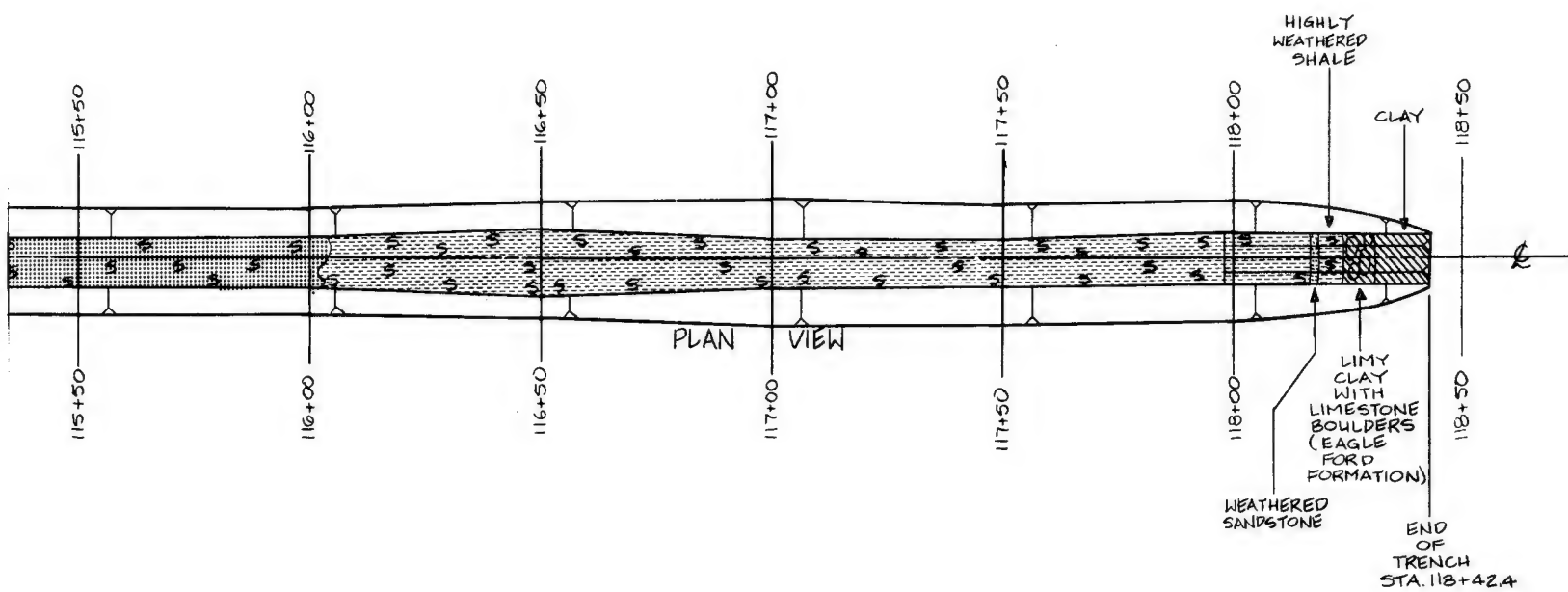
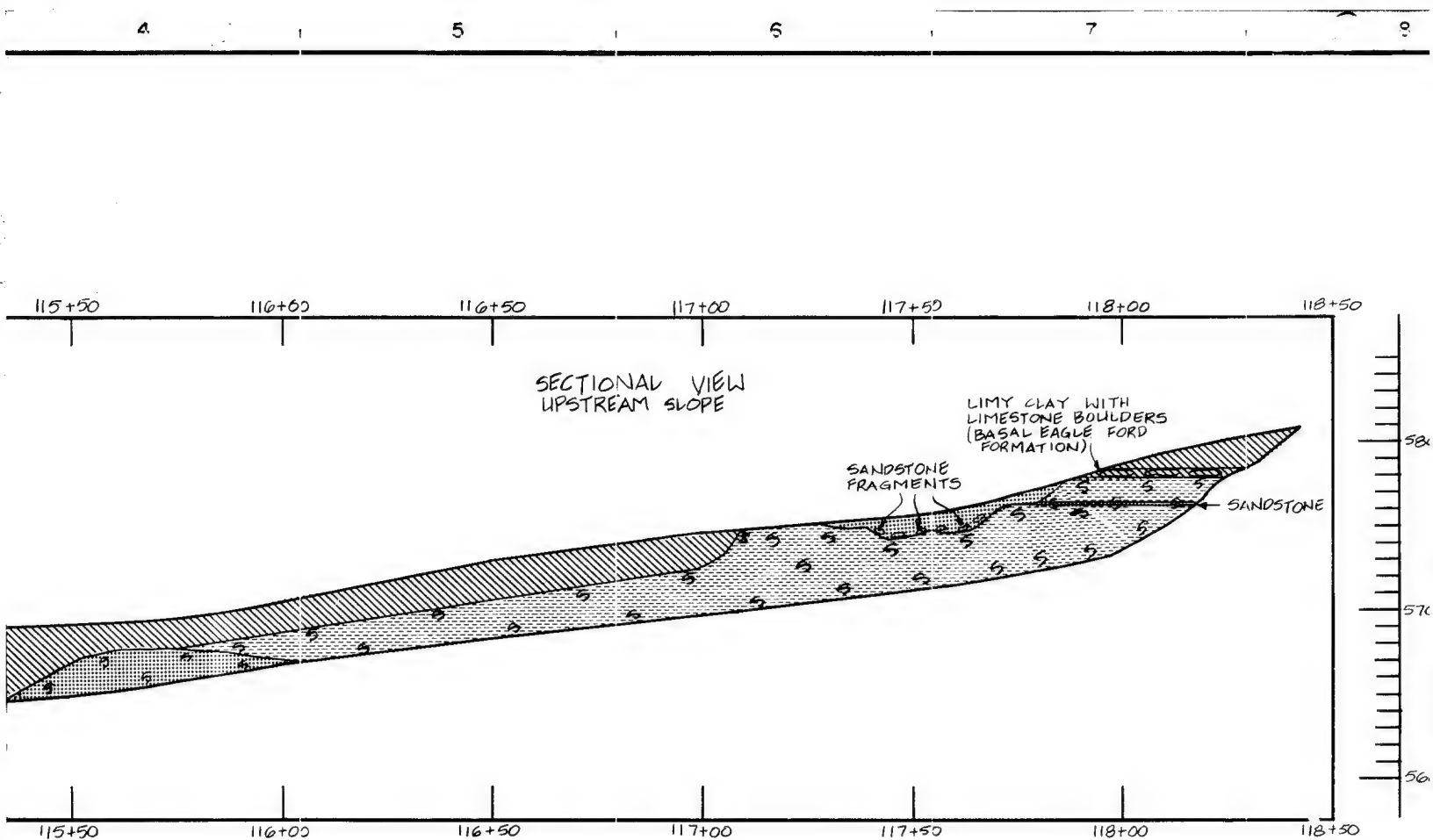
ELEVATION

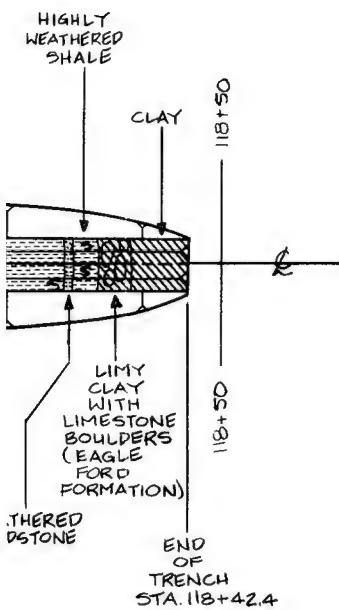
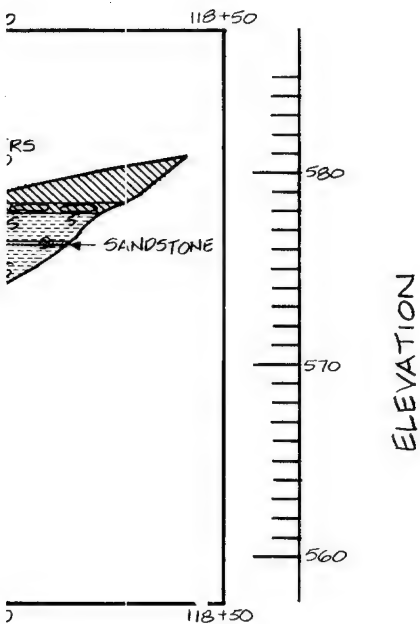


2

3

4





NOTE:

1. FOR MAP SYMBOLS, REFER TO PLATE 16.

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
DESIGNED BY: G. RUDE			U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS AQUILLA LAKE AQUILLA AND HACKBERRY CREEKS, TEXAS FINAL FOUNDATION REPORT INSPECTION TRENCH GEOLOGY AND EXCAVATION STA. 115 + 00.00 TO STA. 118 + 42.40
DRAWN BY: C. KIRBY			
REVIEWED BY: R. BEHM			
SUBMITTED BY: ROBERT BEHM			
INVIATION NO.		DATE:	
CONTRACT NO.		SHEET NO.	
DRAWING NUMBER		OF	
		SEQUENCE NO.	

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 31

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE PROJECT Aquilla -D 0456-1
MAY 71 (TRANSITION)

ENG FORM 1836 MAR 71	PREVIOUS EDITIONS ARE OBSOLETE (TRANSLATION)	PROJECT Aquila Dam	MODEL NO. CAGE
-------------------------	---	-----------------------	-------------------

[illegible][illegible]

Drilling Log Form 1836 for Project Aquilla Dam, Division Southwestern, Fort Worth. Includes sections for Project Information, Log Data, and Log Description. Log Description includes entries for 0.0 to 3.0, 3.0 to 3.5, 3.5 to 4.0, 4.0 to 6.0, 6.0 to 10.0, 10.0 to 15.0, 15.0 to 20.0, 20.0 to 25.0, 25.0 to 30.0, 30.0 to 35.0, 35.0 to 40.0, 40.0 to 45.0, 45.0 to 50.0, 50.0 to 55.0, 55.0 to 60.0, and 60.0 to 65.0.

Drilling Log Form 1836 for Project Aquilla Dam, Division Southwestern, Fort Worth. Includes sections for Project Information, Log Data, and Log Description. Log Description includes entries for 0.0 to 5.5, 5.5 to 16.0, 16.0 to 20.0, 20.0 to 25.0, 25.0 to 30.0, 30.0 to 35.0, 35.0 to 40.0, 40.0 to 45.0, 45.0 to 50.0, 50.0 to 55.0, 55.0 to 60.0, and 60.0 to 65.0.

Drilling Log Form 1836 for Project Aquilla Dam, Division Southwestern, Fort Worth. Includes sections for Project Information, Log Data, and Log Description. Log Description includes entries for 0.0 to 28.0, 28.0 to 30.0, 30.0 to 32.5, 32.5 to 35.0, 35.0 to 40.0, 40.0 to 45.0, 45.0 to 50.0, 50.0 to 55.0, 55.0 to 60.0, and 60.0 to 65.0.

ENG FORM 1836 MAR 71	PREVIOUS EDITIONS ARE OBSOLETE. (TRANSILCANT)	PROJECT Aquila -D	FILE NO BAOC-5
-------------------------	--	----------------------	-------------------

ENG FORM 1836 MAR 71	PREVIOUS EDITIONS ARE OBSOLETE. (TRANSPARENT)	PARTIAL ARJILLA LAKE	FILE NO. BACC-7
-------------------------	--	-------------------------	--------------------

DRILLING LOG		DIVISION		DATE		SHEET	
PROJECT		SND		FWD		OF - SHEETS	
AQUILLA LAKE, SULLY, EMBARKMENT				B. DATE AND TYPE OF BIT			
LOCATION (Township or Range)				11. DATE OF REVISION			
K 12.00, T 10 Y: B, 30.00				12. NAME OF OPERATOR			
DRILLING AGENCY				13. TOTAL DEPTH OF HOLE			
USE -				14. TOTAL CORRECTION			
15. DATE OF DRILLING				16. TOTAL CORRECTION			
17. DATE OF DRILLING				18. TOTAL CORRECTION			
19. DATE OF DRILLING				20. TOTAL CORRECTION			
21. DATE OF DRILLING				22. TOTAL CORRECTION			
23. DATE OF DRILLING				24. TOTAL CORRECTION			
25. DATE OF DRILLING				26. TOTAL CORRECTION			
27. DATE OF DRILLING				28. TOTAL CORRECTION			
29. DATE OF DRILLING				30. TOTAL CORRECTION			
31. DATE OF DRILLING				32. TOTAL CORRECTION			
33. DATE OF DRILLING				34. TOTAL CORRECTION			
35. DATE OF DRILLING				36. TOTAL CORRECTION			
37. DATE OF DRILLING				38. TOTAL CORRECTION			
39. DATE OF DRILLING				40. TOTAL CORRECTION			
41. DATE OF DRILLING				42. TOTAL CORRECTION			
43. DATE OF DRILLING				44. TOTAL CORRECTION			
45. DATE OF DRILLING				46. TOTAL CORRECTION			
47. DATE OF DRILLING				48. TOTAL CORRECTION			
49. DATE OF DRILLING				50. TOTAL CORRECTION			
51. DATE OF DRILLING				52. TOTAL CORRECTION			
53. DATE OF DRILLING				54. TOTAL CORRECTION			
55. DATE OF DRILLING				56. TOTAL CORRECTION			
57. DATE OF DRILLING				58. TOTAL CORRECTION			
59. DATE OF DRILLING				60. TOTAL CORRECTION			
61. DATE OF DRILLING				62. TOTAL CORRECTION			
63. DATE OF DRILLING				64. TOTAL CORRECTION			
65. DATE OF DRILLING				66. TOTAL CORRECTION			
67. DATE OF DRILLING				68. TOTAL CORRECTION			
69. DATE OF DRILLING				70. TOTAL CORRECTION			
71. DATE OF DRILLING				72. TOTAL CORRECTION			
73. DATE OF DRILLING				74. TOTAL CORRECTION			
75. DATE OF DRILLING				76. TOTAL CORRECTION			
77. DATE OF DRILLING				78. TOTAL CORRECTION			
79. DATE OF DRILLING				80. TOTAL CORRECTION			
81. DATE OF DRILLING				82. TOTAL CORRECTION			
83. DATE OF DRILLING				84. TOTAL CORRECTION			
85. DATE OF DRILLING				86. TOTAL CORRECTION			
87. DATE OF DRILLING				88. TOTAL CORRECTION			
89. DATE OF DRILLING				90. TOTAL CORRECTION			
91. DATE OF DRILLING				92. TOTAL CORRECTION			
93. DATE OF DRILLING				94. TOTAL CORRECTION			
95. DATE OF DRILLING				96. TOTAL CORRECTION			
97. DATE OF DRILLING				98. TOTAL CORRECTION			
99. DATE OF DRILLING				100. TOTAL CORRECTION			

[illegible]

DRILLING LOG		DIVISION	
1. PROJECT		SWD	
AQUILA LAKE - SPILLWAY & REMAN			
2. LOCATION (Coordinate or Section)			
3. DRILLING AGENCY		USCEC	
4. DATE (Indicate when the drilling was done)		GDC-	
5. NAME OF DRILLER		G. SCHUCHTER	
6. DIRECTION OF HOLE		VERTICAL <input type="checkbox"/> INCLINED <input type="checkbox"/> DEG. I	
7. THICKNESS OF OVERBURDEN		4.6'±	
8. DEPTH DRILLED INTO ROCK		25.4'±	
9. TOTAL DEPTH OF HOLE		30.0'	
ELEVATION	DEPTH	LOGGING	CLASSIFICATION
ft	ft	ft	ft
30.0	0.0	0.0	0.7
		CLAY: W/SCAL	
		MOIST: V. ST	
		DARK BRN. - BL	
		0.7' TO 3.0	
		CLAY: CALC. V	
		SLT. MOIST: V.	
		3.0	4.6
		CLAY: W/ CALI	
		CALC.; MOIST;	
		& WHITE	
		4.6	13.1
		SHALE: W/	
		STAINING: IN S	
		PARTINGS: MO	
		MOIST: SLT. FI	
		55. SEAMS, LEN	
		BRN. - RUST & L	
		1.6 - 4.7	
		6.1 - 8.5	
		7.7 - 7.8	
		SC	
		9.0	SOFT: S
		9.3	W/ CALI
		10	9.8 - 10.0
		CE	
		HAR	
		GRA	
		LT.	
		10.6 - 10.8	
		LT.	
		11.6	SOFT S
		12.0	13.1
		13.5	14.6
		14.8	15.2
		15.5	16.3
		16.1	17.0
		17.1	17.6
		18.1	18.8
		19.0	19.5
		19.6	20.2
		20.2	20.8
		20.8	21.4
		21.4	22.0
		22.0	22.6
		22.6	23.2
		23.2	23.8
		23.8	24.4
		24.4	25.0
		25.0	25.6
		25.6	26.2
		26.2	26.8
		26.8	27.4
		27.4	28.0
		28.0	28.6
		28.6	29.2
		29.2	29.8
		29.8	30.4
		30.4	31.0
		31.0	31.6
		31.6	32.2
		32.2	32.8
		32.8	33.4
		33.4	34.0
		34.0	34.6
		34.6	35.2
		35.2	35.8
		35.8	36.4
		36.4	37.0
		37.0	37.6
		37.6	38.2
		38.2	38.8
		38.8	39.4
		39.4	40.0
		40.0	40.6
		40.6	41.2
		41.2	41.8
		41.8	42.4
		42.4	43.0
		43.0	43.6
		43.6	44.2
		44.2	44.8
		44.8	45.4
		45.4	46.0
		46.0	46.6
		46.6	47.2
		47.2	47.8
		47.8	48.4
		48.4	49.0
		49.0	49.6
		49.6	50.2
		50.2	50.8
		50.8	51.4
		51.4	52.0
		52.0	52.6
		52.6	53.2
		53.2	53.8
		53.8	54.4
		54.4	55.0

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE
MAR 71

[illegible]

Drilling Log Form for SWD, FWD, and BACG-1. The form includes sections for project information, drilling details, and a detailed log of the borehole. The log is divided into three main sections: I. Drilling, II. Samples, and III. Water Level. The log includes depth, elevation, and descriptions of the materials encountered, such as sandstone, shale, and siltstone. The log also includes a section for the water level, which was measured at 12.0' on May 11, 1975.

Project Information:

- Drilling Log: SWD
- Project: AQUILA LAKE-SPILLWAY FUNDAMENT
- Drilling Agency: USCE-C
- Drilling Log: BACG-1
- Drilling Log: BACG-12

Drilling Details:

- Drilling Date: MAY 13 1975
- Drilling Time: 07:47
- Drilling Depth: 31.8'
- Drilling Elevation: 25.0'
- Drilling Diameter: 6"
- Drilling Method: HAND DRILL
- Drilling Location: AQUILA LAKE-SPILLWAY FUNDAMENT

Log Description:

I. DRILLING:

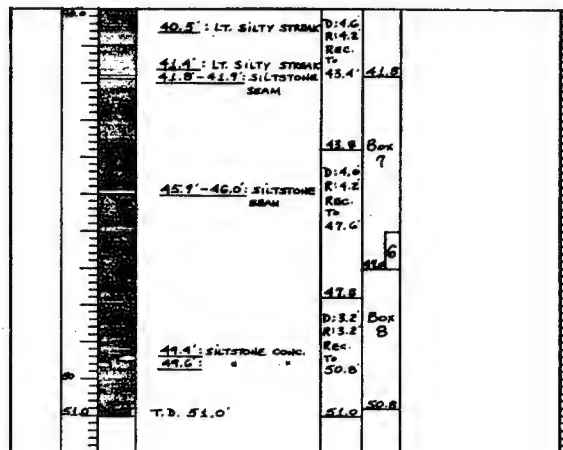
- 0.0' to 5.3': CLAY: MOD. CALC.; MOIST; BLK. DOWN TO BRN. 0.0'-4.4' W. BRN. BLK. 2.4'-5.3' BRN.
- 5.3' to 6.8': CLAY: W/ TRACE OF SAND; V. MOIST; SL. CALC.; STIFF; TAN-BRN.
- 6.8' to 17.1': SHALE: HIGHLY WEAK; CALC. CLAY; W/ SMALL CALC. NODULES & POCKETS; MOIST; SOFT; SL. FISSILE; W/ SANDY STREAKS; W/ IRON STAINING; TAN & LT. GRAY TO LT. BLUE GRAY.
- 17.1' to 25.6': SANDSTONE: WEA.; MOIST; SOFT TO MOD. HARD; NON-CALC.; TAN & LT. GRAY. 17.1'-17.7' CEMENTED MOD. HARD LT. GRAY SS. 17.7'-18.3' SANDY CLAY W. RB. IRON STAINING. 18.3'-21.6' SOFT SS.
- 21.6' to 25.6': SANDSTONE: WEA.; MOD. WEAK; DOWN TO UNWEA.; NON-CALC.; FISSILE; SOFT; MOIST; W/ SCAT. SAND. SS. LENSES & PARTINGS; DARK GRAY BLK. 25.6'-25.8' W/ RUST STAINING.
- 25.8' to 28.7': SOFT SS.
- 28.7' to 29.8': SOFT SS.
- 29.8' to 30.3': SANDSTONE: UNWEA.; NON-CALC.; SOFT; MOIST; SHALE; WEAKLY CEMENTED; DARK GRAY.
- 30.3' to 31.8': LIGNITE PARTING 30.3' to 31.0' T.D. SHALE: UNWEA.; NON-CALC. FISSILE; SOFT; MOIST; DARK GRAY. 31.0'-31.8' SILTSTONE CONC. 31.8'-32.2' SANDY PARTINGS. 32.2'-32.4' SILTSTONE CONC. 32.4'-32.8' TWO VERTICAL TIGHT JOINTS. 32.8'-33.2' SILTSTONE LAMINATIONS. 33.2' TIGHT JOINT.

II. SAMPLES:

- 0.0' - 2.4'
- 2.4' - 5.3'
- 5.3' - 6.8'
- 6.8' - 17.1'
- 17.1' - 25.6'
- 25.6' - 28.7'
- 28.7' - 29.8'
- 29.8' - 30.3'
- 30.3' - 31.8'
- 31.8' - 32.2'
- 32.2' - 32.4'
- 32.4' - 32.8'
- 32.8' - 33.2'

III. WATER LEVEL:

- BORING DRAINED TO 32.5' ON MAY 75; WATER LEVEL WAS 5.3' AFTER 24 HRS. BORING WAS LEFT OPEN FOR 8 HOURS BUT HAD CAME IN AT 12.0' ON MAY 11, 1975. PLASTIC PIPE WAS PLACED TO 12.0'.



Drilling Log Form for SWD, FWD, and BACG-1. The form includes sections for project information, drilling details, and a detailed log of the borehole. The log is divided into three main sections: I. Drilling, II. Samples, and III. Water Level. The log includes depth, elevation, and descriptions of the materials encountered, such as sandstone, shale, and siltstone. The log also includes a section for the water level, which was measured at 12.0' on May 11, 1975.

Project Information:

- Drilling Log: SWD
- Project: AQUILA LAKE-SPILLWAY FUNDAMENT
- Drilling Agency: USCE-C
- Drilling Log: BACG-1
- Drilling Log: BACG-12

Drilling Details:

- Drilling Date: MAY 13 1975
- Drilling Time: 07:47
- Drilling Depth: 31.8'
- Drilling Elevation: 25.0'
- Drilling Diameter: 6"
- Drilling Method: HAND DRILL
- Drilling Location: AQUILA LAKE-SPILLWAY FUNDAMENT

Log Description:

I. DRILLING:

- 0.0' to 5.3': CLAY: MOD. CALC.; MOIST; BLK. DOWN TO BRN. 0.0'-4.4' W. BRN. BLK. 2.4'-5.3' BRN.
- 5.3' to 6.8': CLAY: W/ TRACE OF SAND; V. MOIST; SL. CALC.; STIFF; TAN-BRN.
- 6.8' to 17.1': SHALE: HIGHLY WEAK; CALC. CLAY; W/ SMALL CALC. NODULES & POCKETS; MOIST; SOFT; SL. FISSILE; W/ SANDY STREAKS; W/ IRON STAINING; TAN & LT. GRAY TO LT. BLUE GRAY.
- 17.1' to 25.6': SANDSTONE: WEA.; MOIST; SOFT TO MOD. HARD; NON-CALC.; TAN & LT. GRAY. 17.1'-17.7' CEMENTED MOD. HARD LT. GRAY SS. 17.7'-18.3' SANDY CLAY W. RB. IRON STAINING. 18.3'-21.6' SOFT SS.
- 21.6' to 25.6': SANDSTONE: WEA.; MOD. WEAK; DOWN TO UNWEA.; NON-CALC.; FISSILE; SOFT; MOIST; W/ SCAT. SAND. SS. LENSES & PARTINGS; DARK GRAY BLK. 25.6'-25.8' W/ RUST STAINING.
- 25.8' to 28.7': SOFT SS.
- 28.7' to 29.8': SOFT SS.
- 29.8' to 30.3': SANDSTONE: UNWEA.; NON-CALC.; SOFT; MOIST; SHALE; WEAKLY CEMENTED; DARK GRAY.
- 30.3' to 31.8': LIGNITE PARTING 30.3' to 31.0' T.D. SHALE: UNWEA.; NON-CALC. FISSILE; SOFT; MOIST; DARK GRAY. 31.0'-31.8' SILTSTONE CONC. 31.8'-32.2' SANDY PARTINGS. 32.2'-32.4' SILTSTONE CONC. 32.4'-32.8' TWO VERTICAL TIGHT JOINTS. 32.8'-33.2' SILTSTONE LAMINATIONS. 33.2' TIGHT JOINT.

II. SAMPLES:

- 0.0' - 2.4'
- 2.4' - 5.3'
- 5.3' - 6.8'
- 6.8' - 17.1'
- 17.1' - 25.6'
- 25.6' - 28.7'
- 28.7' - 29.8'
- 29.8' - 30.3'
- 30.3' - 31.8'
- 31.8' - 32.2'
- 32.2' - 32.4'
- 32.4' - 32.8'
- 32.8' - 33.2'

III. WATER LEVEL:

- BORING DRAINED TO 32.5' ON MAY 75; WATER LEVEL WAS 5.3' AFTER 24 HRS. BORING WAS LEFT OPEN FOR 8 HOURS BUT HAD CAME IN AT 12.0' ON MAY 11, 1975. PLASTIC PIPE WAS PLACED TO 12.0'.

RECORD DRAWING-WORK AS BUILT

EMBAN

LI

TO ACCOMPANY FINAL FOUNDATION REP

BORING LOG		INSTALLATION	
PROJECT: SWD		FWD	
LOCATION: AQUILLA LAKE - SPILLWAY EMBANKMENT		DATE: 1 MAY 73	
DRILLING AGENCY: USCE-C		DESIGNATION OF DRILL: F-1	
DATE OF LOG: 1 MAY 73		ELEVATION: 1500	
BAGC-12		TOTAL NUMBER CORE BOXES: 5	
NAME OF DRILLER: T. J. SULLIVAN		ELEVATION GROUND WATER: 1500	
DIRECTION OF HOLE: VERTICAL		DATE HOLE: 1 MAY 73	
DIAMETER OF HOLE: 6.8"		ELEVATION TOP OF HOLE: 1500	
DEPTH DRILLED INTO ROCK: 25.0'		TOTAL CORE RECOVERY FOR BORING: 83'	
TOTAL DEPTH OF HOLE: 31.8'		SIGNATURE: [Signature]	
ELEVATION: 1500		REMARKS: (Check items, enter time, depth of penetration, etc., if appropriate)	
CLASSIFICATION OF MATERIALS		REMARKS	
0.0' TO 1.5' CLAY: NON-CALC.; W/SEAT GRAVEL; MOIST; STIFF TO V. STIFF; DARK DRN.-BLK. 1.5' TO 3.2' CLAY: MOD. CALC. W/CALC. NODULES; MOIST; V. STIFF; DARK DRN. 3.2' TO 6.8' CLAY: CALC. W/CALC. NODULES; W/CALICHE POCKETS; MOIST; V. STIFF; TAN-BRN. 6.8' TO 11.0' SANDSTONE; MOD. WEA.; W/INTERBEDDED SHALE; SEAMS; MOIST; SOFT (EXCEPT AS INDICATED BELOW); LT. GRAY, RUST & YELLOW 11.0' TO 14.8' SANDSTONE; MOD. WEA.; W/INTERBEDDED SHALE; SEAMS; MOIST; SOFT (EXCEPT AS INDICATED BELOW); LT. GRAY, RUST & YELLOW 14.8' TO 18.8' SANDSTONE; MOD. WEA.; W/INTERBEDDED SHALE; SEAMS; MOIST; SOFT (EXCEPT AS INDICATED BELOW); LT. GRAY, RUST & YELLOW 18.8' TO 22.8' SANDSTONE; MOD. WEA.; W/INTERBEDDED SHALE; SEAMS; MOIST; SOFT (EXCEPT AS INDICATED BELOW); LT. GRAY, RUST & YELLOW 22.8' TO 26.2' SANDSTONE; MOD. WEA.; W/INTERBEDDED SHALE; SEAMS; MOIST; SOFT (EXCEPT AS INDICATED BELOW); LT. GRAY, RUST & YELLOW 26.2' TO 27.8' SANDSTONE; MOD. WEA.; W/INTERBEDDED SHALE; SEAMS; MOIST; SOFT (EXCEPT AS INDICATED BELOW); LT. GRAY, RUST & YELLOW 27.8' TO 31.8' T.D. 31.8'		I DRILLING: 10' FLIGHT AUGER: 0.0' - 6.8' NOTE: HAD AUGER REFUSAL AT 6.8' CORE BARREL: 6.8' - 31.8' NOTE: COULD NOT BEGIN CORING BEFORE 6.8' BECAUSE OF LOW CORE BARREL. II SAMPLES: DISTURBED (JARS): A: 0.0' - 1.5' B: 1.5' - 3.2' C: 3.2' - 6.8' UNDISTURBED (CARTON): C-1: 12.4' - 13.7' C-2: 18.4' - 19.7' C-3: 29.8' - 30.7' NOTE: UNABLE TO OBTAIN ADDITIONAL CARTON SAMPLES BECAUSE OF BREAKS IN THE CORE. III WATER LEVEL: * BORING WAS BILLED TO 29.8' ON 2 MAY. WATER LEVEL AFTER 24 HRS. WAS 6.2' 2" PERK. PLASTIC PIPE TO BE PLACED TO T.D. AFTER E-LOGGING AT A LATER DATE. Box 1 Box 2 Box 3 Box 4 Box 5 Box 6	

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

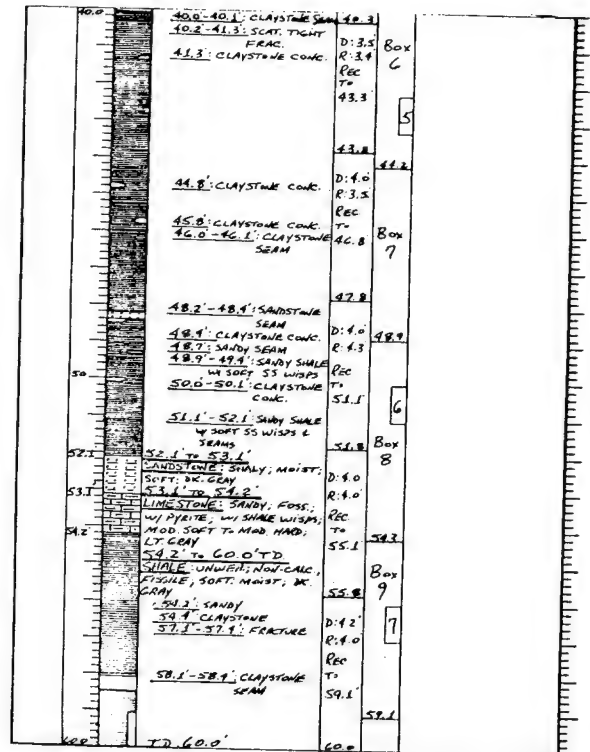
DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____
AQUILLA LAKE
EMBANKMENT AND SPILLWAY

LOGS OF BORINGS
8A6C-10, 11 AND 12

SUBMITTED BY: _____ INV. NO. DACW63-80-B-0285 DATED: AUG. 1960
ENGINEER: _____ CONTR. NO. DACW63-81-C-0035 SEQUENCE NO. 108
DRAWING NUMBER 8-3 OF

Mile No. 8AGC-13

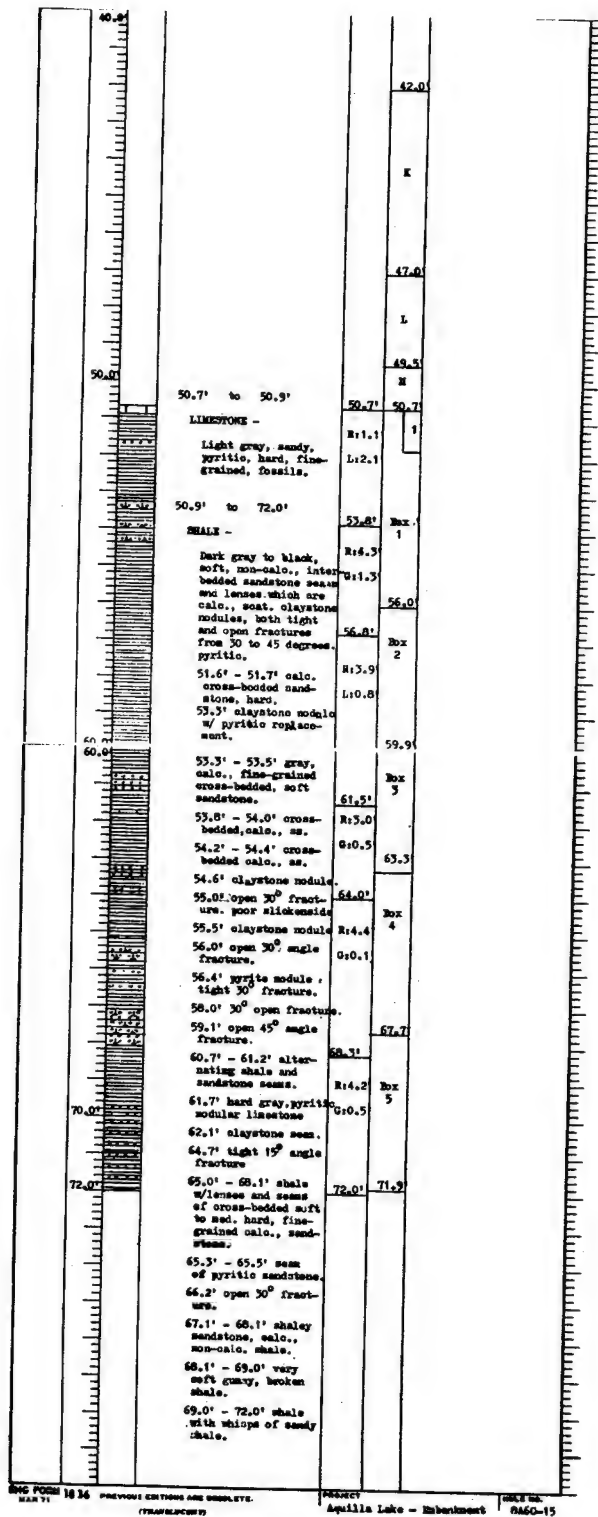
DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT: AQUILLA LAKE EMBANKMENT		SWD		FWD		SHEET 1 OF 3 SHEETS	
1. LOCATION (Coordinates or Station)		2. DATE AND TIME OF TEST		3. NAME AND TYPE OF BIT		4. CORRECTION	
5. DRILLING METHOD		6. DRILLER		7. DRILLER'S SIGNATURE		8. DRILLER'S TITLE	
9. DRILLING LOG		10. DRILLING LOG		11. DRILLING LOG		12. DRILLING LOG	
13. DRILLING LOG		14. DRILLING LOG		15. DRILLING LOG		16. DRILLING LOG	
17. DRILLING LOG		18. DRILLING LOG		19. DRILLING LOG		20. DRILLING LOG	
21. DRILLING LOG		22. DRILLING LOG		23. DRILLING LOG		24. DRILLING LOG	
25. DRILLING LOG		26. DRILLING LOG		27. DRILLING LOG		28. DRILLING LOG	
29. DRILLING LOG		30. DRILLING LOG		31. DRILLING LOG		32. DRILLING LOG	
33. DRILLING LOG		34. DRILLING LOG		35. DRILLING LOG		36. DRILLING LOG	
37. DRILLING LOG		38. DRILLING LOG		39. DRILLING LOG		40. DRILLING LOG	
41. DRILLING LOG		42. DRILLING LOG		43. DRILLING LOG		44. DRILLING LOG	
45. DRILLING LOG		46. DRILLING LOG		47. DRILLING LOG		48. DRILLING LOG	
49. DRILLING LOG		50. DRILLING LOG		51. DRILLING LOG		52. DRILLING LOG	
53. DRILLING LOG		54. DRILLING LOG		55. DRILLING LOG		56. DRILLING LOG	
57. DRILLING LOG		58. DRILLING LOG		59. DRILLING LOG		60. DRILLING LOG	
61. DRILLING LOG		62. DRILLING LOG		63. DRILLING LOG		64. DRILLING LOG	
65. DRILLING LOG		66. DRILLING LOG		67. DRILLING LOG		68. DRILLING LOG	
69. DRILLING LOG		70. DRILLING LOG		71. DRILLING LOG		72. DRILLING LOG	
73. DRILLING LOG		74. DRILLING LOG		75. DRILLING LOG		76. DRILLING LOG	
77. DRILLING LOG		78. DRILLING LOG		79. DRILLING LOG		80. DRILLING LOG	
81. DRILLING LOG		82. DRILLING LOG		83. DRILLING LOG		84. DRILLING LOG	
85. DRILLING LOG		86. DRILLING LOG		87. DRILLING LOG		88. DRILLING LOG	
89. DRILLING LOG		90. DRILLING LOG		91. DRILLING LOG		92. DRILLING LOG	
93. DRILLING LOG		94. DRILLING LOG		95. DRILLING LOG		96. DRILLING LOG	
97. DRILLING LOG		98. DRILLING LOG		99. DRILLING LOG		100. DRILLING LOG	



	40.6' CLAYSTONE LENS	D: 4.3 R: 3.8 Roc To 42.7	Box 5
	41.1' - 41.4' SCAT. CLAY STONE SEAMS	43.3	4
	44.2' FRAC.	D: 4.5 R: 4.3 Roc To 47.0	Box 6
	47.6' - 47.8' CLAYSTONE SEAM	47.8	
	49.3' CLAYSTONE SEAM 49.4' - 50.3' FRAC	D: 4.6 R: 3.4 Roc To 50.4	49.4
	50.3' - 50.4' CLAYSTONE SEAM	51.9	6
	53.0' SLICE 53.0' - 53.4' CLAYSTONE SEAM	D: 3.0 R: 4.0 Roc 54.4	Box 7
	55.7' FRAC. 55.0' - 55.6' SANDY	54.8	55.0
55.0	55.6' TO 61.0' TD SANDSTONE w/ SCAT. SHALE SEAMS. SOFT TO MED. HARD; Gray shd.	D: 4.1 R: 4.5 Roc To 58.9	Box 8
	55.6' - 56.0' SANDY 56.0' CLAYSTONE COAK. 56.4' - 57.5' w/ SCAT. SHALE SEAMS	58.9	
	59.0' - 59.6' SANDY LINE STONE. MED HARD.	59.9	59.6
193.1 600	60.8' - 60.6' SHALE PARTINGS	D: 2.1 R: 2.1 Roc 61.0	Box 9
193.1 610	T.D. 61.0'	61.0	61.0

FORM	DA NO.	ACTION	DATE	DESCRIPTION OF REVISION
<p align="center">U.S. ARMY ENGINEERING CENTER, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS</p>				
DESIGNED BY: -----	<p align="center">AQUILLA LAKE AQUILLA CREEK, TEXAS</p>			
DRAWN BY: -----				
CHECKED BY: -----				
<p align="center">EMBANKMENT AND SPILLWAY</p>				<p align="center">LOGS OF BORINGS 8A6C-13 AND 6DC-14</p>
SUBMITTED BY: -----	INV. NO. DACWG3-B-0085		DATED: AUG. 1963	
ENGINEER: -----	CONTR. NO. DACWG3-B-0085		SEQUENCE NO.	
	DRAWING NUMBER		SHEET NO. 109	

DRILLING LOG		DIVISION		INSTALLATION		Hole No.	
SUBJECT		FWD		FWD		BA6C-15	
1. LOCATION (Continuation of Sheet)		2. DRILLING AGENCY		3. MANUFACTURER'S DESIGNATION OF DRILL		4. DATE	
Aguila I.A. - Haborbank		USMC-C		Falling 1500		6 Nov. '73	
5. NAME OF DRILLER		6. DATE WHEN		7. ELEVATION TOP OF HOLE		8. TOTAL CORE RECOVERY FOR BORING	
T. Miller		6 Nov. '73		541.7		90	
9. THICKNESS OF OVERBURDEN		10. TOTAL CORE RECOVERY FOR BORING		11. ELEVATION WHEN BORING		12. TOTAL CORE RECOVERY FOR BORING	
49.5'		90		541.7		90	
13. DEPTH DRILLED INTO ROCK		14. TOTAL CORE RECOVERY FOR BORING		15. ELEVATION WHEN BORING		16. TOTAL CORE RECOVERY FOR BORING	
22.5'		90		541.7		90	
17. TOTAL DEPTH OF HOLE		18. TOTAL CORE RECOVERY FOR BORING		19. ELEVATION WHEN BORING		20. TOTAL CORE RECOVERY FOR BORING	
72.0'		90		541.7		90	
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	1. CORE NO.	2. BOX OR CASE NO.	3. REMARKS	4. REMARKS
0.0'	0.0'		0.0' to 22.5'				
			CLAY -				
			0.0' - 5.0' Olive gray brown, silty, stiff, moist, med. plasticity, silty, silty, sandy, silty, calc., scat. tan size caliche.				1. 8" Flight Auger 0.0' - 49.7'
			5.0' - 6.0' Olive gray brown, high plasticity, stiff, moist, calc., hard caliche nodules to 100-150 pockets of tan color.				7" 8" Rockbit 49.7' - 50.7'
			6.0' - 11.0' Tan, very stiff, sandy, silty, moist, med. plasticity, calc., scat. hard caliche nodules to 100, also powdery caliche.				5" Core Barrel 50.7' - 72.0'
			11.0' - 16.0' Olive tan, sandy, moist, silty, med. plasticity, calc., scat. black coarse sand size chert, some minor caliche.				Casing set to 49.7'
			16.0' - 19.0' Orange-tan, gray streaks, stiff, sandy, silty, moist, low to medium plasticity, silty, calc.				
			19.0' - 22.5' Tan and gray, hard, moist, silty, calc., becoming silty, sandy at 22.0'.				
			22.5' to 49.5'				
			SAND -				
			22.5' - 27.5' Tan, wet, low plasticity, silty, loose, calc.				2. Jars:
			27.5' - 33.0' Tan, moist, silty, calc., low plasticity, loose, scat. pebbles.				A: 0.0' - 5.0'
			33.0' - 37.0' Tan, loose, moist, clayey, low plasticity, calc., gravel and large cobbles present.				B: 5.0' - 6.0'
			SAND - (contd.)				C: 6.0' - 11.0'
			37.0' - 42.0' Tan, wet, loose, silty, calc., low plasticity, silty, heavy gravel to 39.0'				D: 11.0' - 16.0'
			42.0' - 47.0' Tan w/ pockets of gray, loose, silty, stiff, very moist, low plasticity, calc.				E: 16.0' - 19.0'
			47.0' - 49.5' Tan, wet, low plasticity, loose, calc., heavy gravel and coarse sand size ironstone pebbles present.				F: 19.0' - 22.5'
							G: 22.5' - 27.5'
							H: 27.5' - 33.0'
							I: 33.0' - 37.0'
							J: 37.0' - 42.0'
							K: 42.0' - 47.0'
							L: 47.0' - 49.5'
							M: 49.5' - 50.7'
							3. Cartons:
							C-1: 50.7' - 51.8'
							4. Drill rig moved off hole 4' and fish-tailed to Hole E-logged on 12 November 1973
							5. Water bailed to 32.1' with casing still in hole. Could bail on further due to rate of incoming water.
							Water level after 72 hours was
							Perforated plastic pipe set to 72.0'.



RECORD DRAWING-WORK AS BUILT

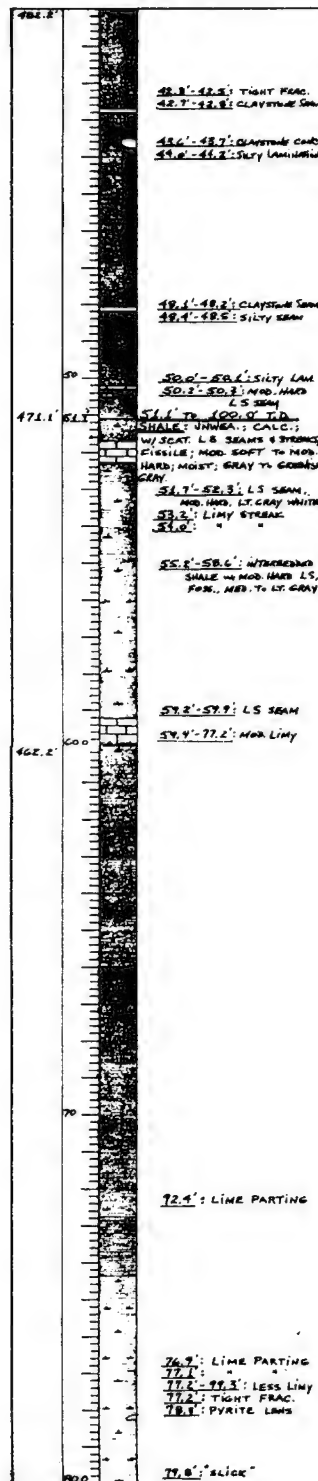
SYMBOL NO.	ACTION	DATE	DESCRIPTION OF WORK
U.S. ARMY ENGINEER DISTRICT, FORT WORTH, TEXAS			
AQUILLA LAKE, TEXAS			
EMBANKMENT AND SPI			
LOGS OF BORING 8A6C-15			
DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
SUBMITTED BY:	INV. NO. DACW 63-80-5		
ENGINEER:	CONTR. NO. DACW 63-8		
			DRAWING NUMBER

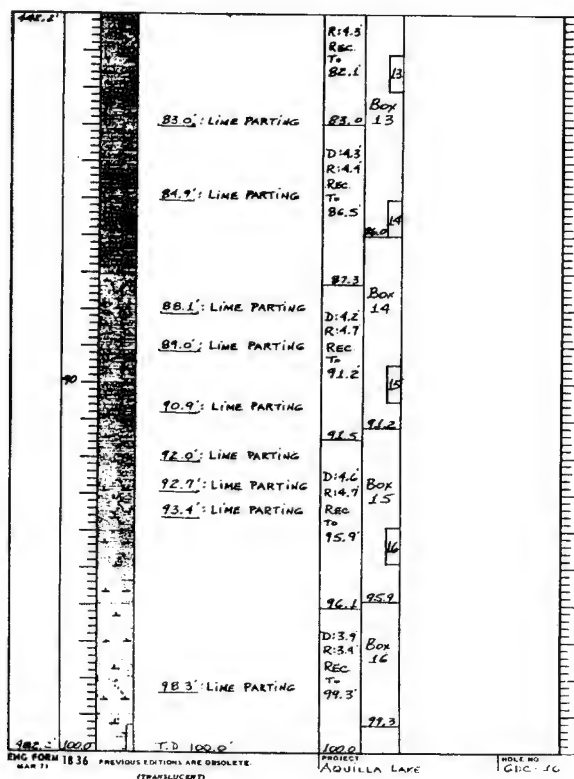
RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS EMBANKMENT AND SPILLWAY LOGS OF BORINGS 8A6C-15		
DRAWN BY:			
CHECKED BY:			
ENGINEER:			
SUBMITTED BY:		INV. NO. DACW63-80-B-0085	DATED: AUG. 1980
		CONTR. NO. DACW63-81-C-0039	SEQUENCE NO.
		DRAWING NUMBER	SHEET NO.
		B-5 of	110

CONTR. NO. DACW63-81-C-0039

DRILLING LOG		SWD		METALLATION		FWD		GDC-16	
DIVISION		SECTION		DATE		TIME		PAGE	
PROJECT: AQUILLA LAKE - EMBANKMENT				DATE: MAY 1965				PAGE: 1	
1. SITE LOCATION (Reference to Record)				2. DATE OF LOG: 1/19/65				3. LOG NUMBER: 1	
4. LOG TITLE: USCE-C				5. LOG NUMBER: 1				6. LOG NUMBER: 1	
7. NAME OF DRILLER: C. SCHROEDER				8. DATE: 1/19/65				9. LOG NUMBER: 1	
10. DIRECTION OF HOLE: VERTICAL				11. DATE: 1/19/65				12. LOG NUMBER: 1	
13. THICKNESS OF OVERBURDEN: 10.6'				14. DATE: 1/19/65				15. LOG NUMBER: 1	
16. DEPTH DRILLED INTO ROCK: 89.4'				17. DATE: 1/19/65				18. LOG NUMBER: 1	
19. TOTAL DEPTH OF HOLE: 100.0'				20. DATE: 1/19/65				21. LOG NUMBER: 1	
22. ELEVATION: 511.6'				23. DATE: 1/19/65				24. LOG NUMBER: 1	
25. TOTAL DEPTH OF HOLE: 100.0'				26. DATE: 1/19/65				27. LOG NUMBER: 1	
28. ELEVATION: 511.6'				29. DATE: 1/19/65				30. LOG NUMBER: 1	
31. TOTAL DEPTH OF HOLE: 100.0'				32. DATE: 1/19/65				33. LOG NUMBER: 1	
34. ELEVATION: 511.6'				35. DATE: 1/19/65				36. LOG NUMBER: 1	
37. TOTAL DEPTH OF HOLE: 100.0'				38. DATE: 1/19/65				39. LOG NUMBER: 1	
40. ELEVATION: 511.6'				41. DATE: 1/19/65				42. LOG NUMBER: 1	
43. TOTAL DEPTH OF HOLE: 100.0'				44. DATE: 1/19/65				45. LOG NUMBER: 1	
46. ELEVATION: 511.6'				47. DATE: 1/19/65				48. LOG NUMBER: 1	
49. TOTAL DEPTH OF HOLE: 100.0'				50. DATE: 1/19/65				51. LOG NUMBER: 1	
52. ELEVATION: 511.6'				53. DATE: 1/19/65				54. LOG NUMBER: 1	
55. TOTAL DEPTH OF HOLE: 100.0'				56. DATE: 1/19/65				57. LOG NUMBER: 1	
58. ELEVATION: 511.6'				59. DATE: 1/19/65				60. LOG NUMBER: 1	
61. TOTAL DEPTH OF HOLE: 100.0'				62. DATE: 1/19/65				63. LOG NUMBER: 1	
64. ELEVATION: 511.6'				65. DATE: 1/19/65				66. LOG NUMBER: 1	
67. TOTAL DEPTH OF HOLE: 100.0'				68. DATE: 1/19/65				69. LOG NUMBER: 1	
70. ELEVATION: 511.6'				71. DATE: 1/19/65				72. LOG NUMBER: 1	
73. TOTAL DEPTH OF HOLE: 100.0'				74. DATE: 1/19/65				75. LOG NUMBER: 1	
76. ELEVATION: 511.6'				77. DATE: 1/19/65				78. LOG NUMBER: 1	
79. TOTAL DEPTH OF HOLE: 100.0'				80. DATE: 1/19/65				81. LOG NUMBER: 1	
82. ELEVATION: 511.6'				83. DATE: 1/19/65				84. LOG NUMBER: 1	
85. TOTAL DEPTH OF HOLE: 100.0'				86. DATE: 1/19/65				87. LOG NUMBER: 1	
88. ELEVATION: 511.6'				89. DATE: 1/19/65				90. LOG NUMBER: 1	
89. TOTAL DEPTH OF HOLE: 100.0'				90. DATE: 1/19/65				91. LOG NUMBER: 1	
90. ELEVATION: 511.6'				91. DATE: 1/19/65				92. LOG NUMBER: 1	
91. TOTAL DEPTH OF HOLE: 100.0'				92. DATE: 1/19/65				93. LOG NUMBER: 1	
92. ELEVATION: 511.6'				93. DATE: 1/19/65				94. LOG NUMBER: 1	
93. TOTAL DEPTH OF HOLE: 100.0'				94. DATE: 1/19/65				95. LOG NUMBER: 1	
94. ELEVATION: 511.6'				95. DATE: 1/19/65				96. LOG NUMBER: 1	
95. TOTAL DEPTH OF HOLE: 100.0'				96. DATE: 1/19/65				97. LOG NUMBER: 1	
96. ELEVATION: 511.6'				97. DATE: 1/19/65				98. LOG NUMBER: 1	
97. TOTAL DEPTH OF HOLE: 100.0'				98. DATE: 1/19/65				99. LOG NUMBER: 1	
98. ELEVATION: 511.6'				99. DATE: 1/19/65				100. LOG NUMBER: 1	





RECORD DRAWING-WORK AS BUILT

STATION NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 6DC-16		
SUBMITTED BY:	INV. NO. DACW63-80-B-0085	DATED: AUG, 1980	
ENGINEER:	CONTR. NO. DACW63-B1-C-2035	SHEET NO.	SEQUENCE NO.
	DRAWING NUMBER	8-6 OF	III

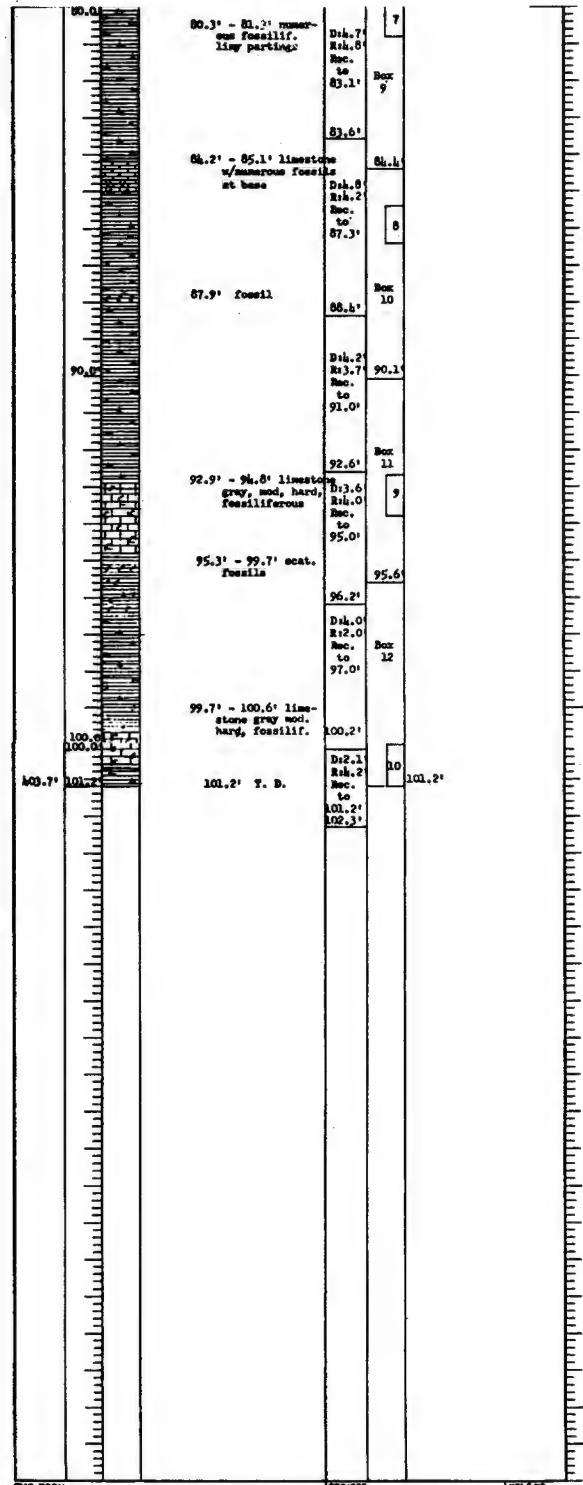
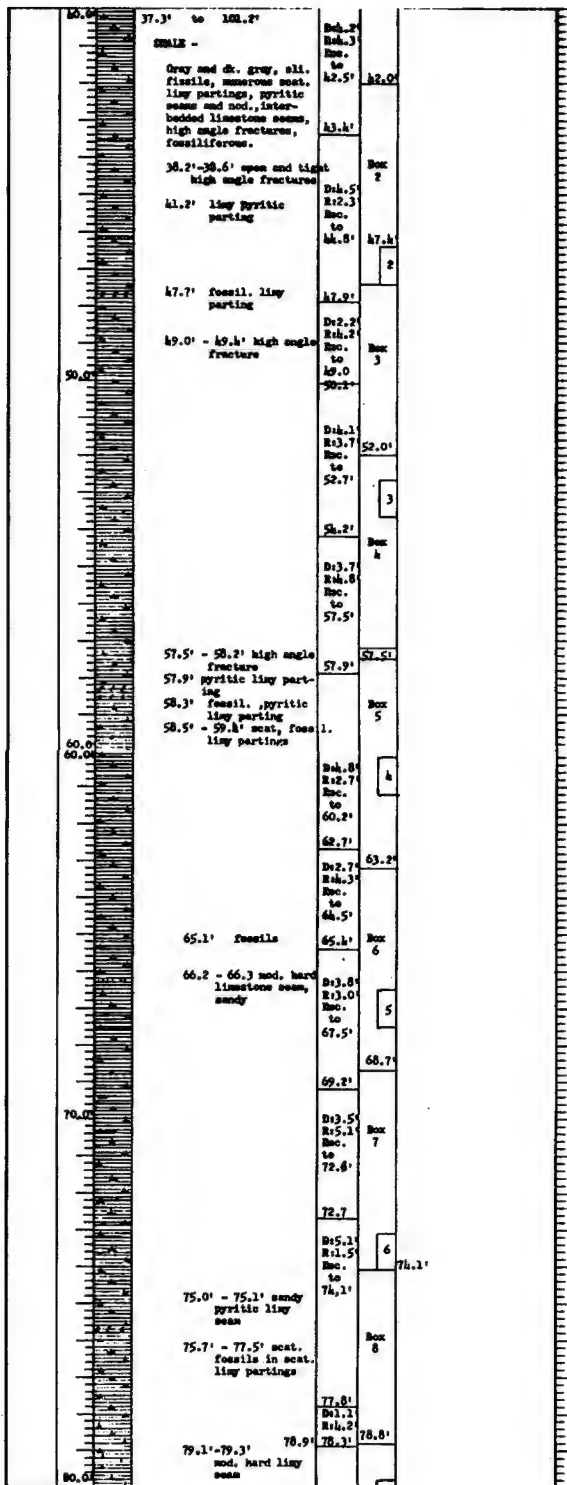
TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 37

CONTR. NO. DACW63-B1-C-2035

[illegible]

Depth (ft)	Description	Interval (ft)	Box
37.3'	to 108.2'		
	SHALE -		
	Gray and dk. gray, sil. fossils, numerous scat. liay partings, pyritic seams and nod. later-bedded limestone seams, high angle fractures, fossiliferous.	Dth. 2' to 42.5'	Box 2
	38.2' - 38.6' open and tight high angle fractures	Dth. 5' to 44.8'	Box 2
	41.2' liay pyritic parting	47.4'	2
	47.7' fossil. liay parting	47.9'	
	49.0' - 49.4' high angle fracture	Dth. 2' to 50.2'	Box 3
		Dth. 1' to 52.7'	52.0'
		54.2'	3
		Dth. 3.7' to 57.5'	Box 4
	57.5' - 58.2' high angle fracture	57.9'	57.5'
	57.9' pyritic liay parting		Box 5
	58.3' fossil. pyritic liay parting		1.
	58.5' - 59.4' scat, fossil liay partings	Dth. 8' to 60.2'	h
		62.7'	
		Dth. 2.7' to 64.5'	63.2'
	65.1' fossils	65.4'	Box 6
	66.2 - 66.3 mod. hard limestone seam, sandy	Dth. 3.8' to 67.5'	5
		68.7'	
		69.2'	
		Dth. 3.5' to 72.6'	Box 7
		72.7'	
		Dth. 5.1' to 74.1'	6
	75.0' - 75.1' sandy pyritic liay seam		74.1'
	75.7' - 77.5' scat. fossils in scat. liay partings		Box 8
		77.8'	
		Dth. 1.1' to 78.3'	78.8'
	79.1' - 79.3' mod. hard liay seam		



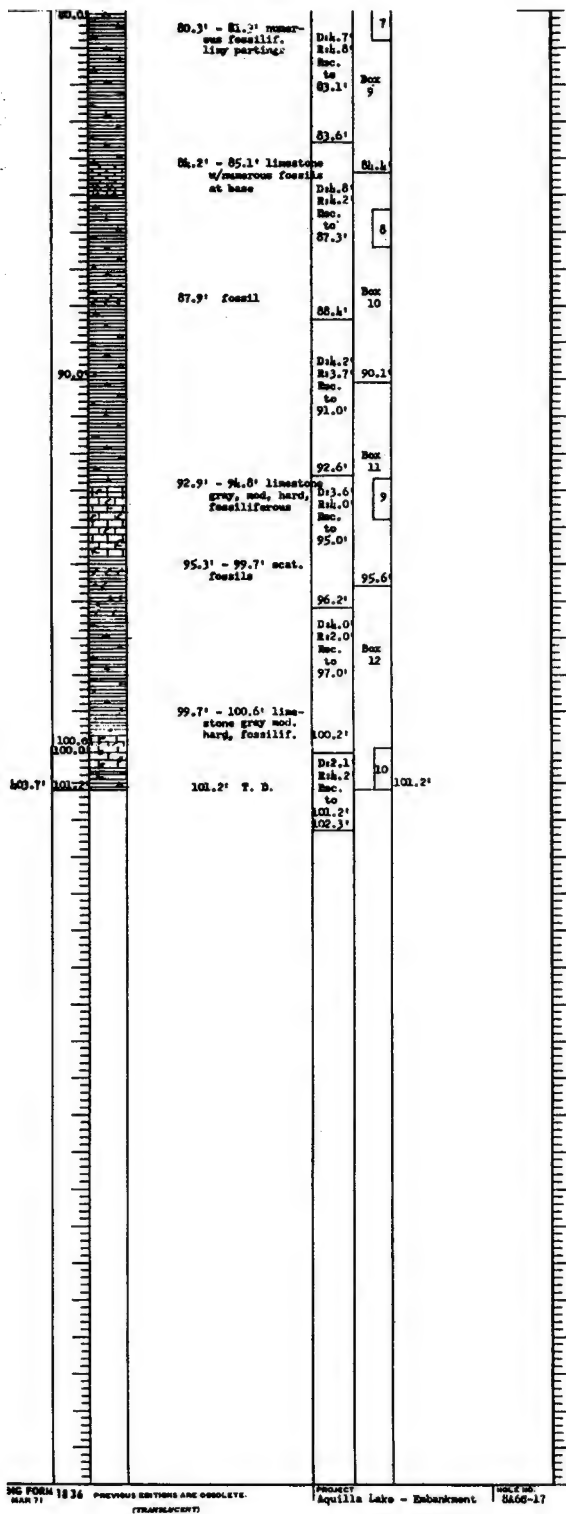
ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.
MAY 71 (TRANSILUCENT)

PROJECT Aquilla Lake - Embankment
SHEET NO. 0466-17

RECORD

DESIGNED	-----
DRAWN BY	-----
CHECKED	-----
SUBMITTED	-----
ENGINEER	-----

TO ACCOMPANY FINAL



SG FORM 1836
MAR 71 PREVIOUS EDITIONS ARE OBSOLETE.
(TRANSLOCATION)

PROJECT
Aquilla Lake - Embankment
SHEET NO.
8A6C-17

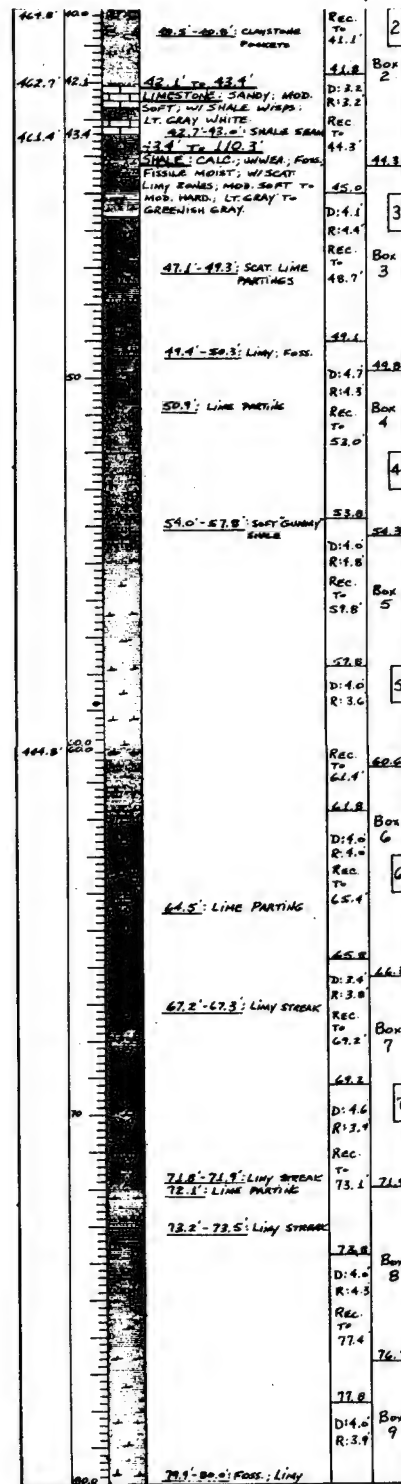
RECORD DRAWING-WORK AS BUILT

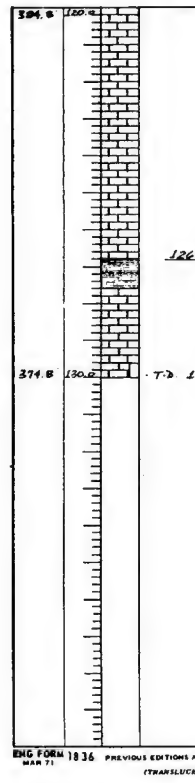
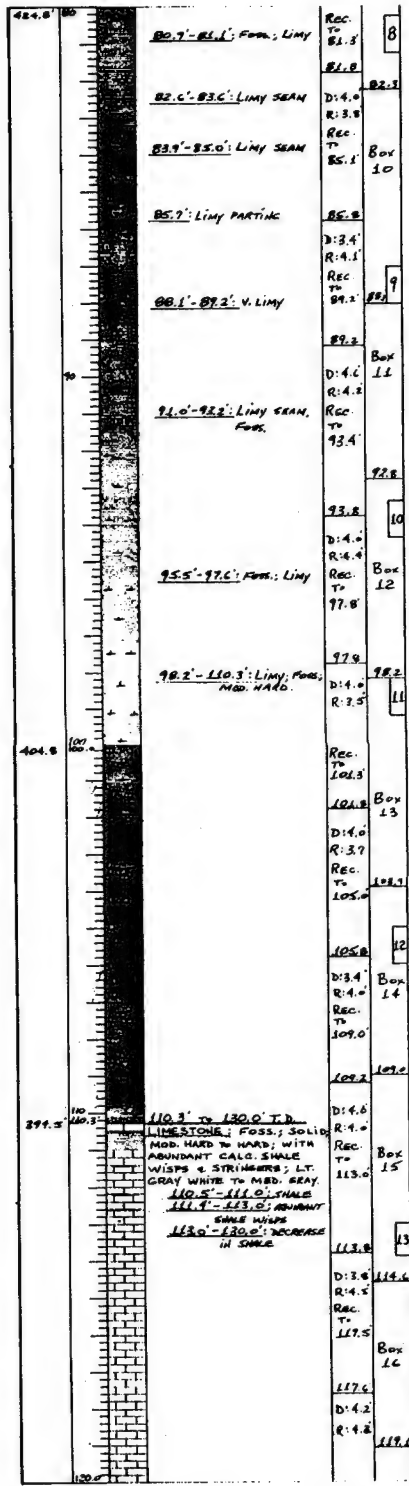
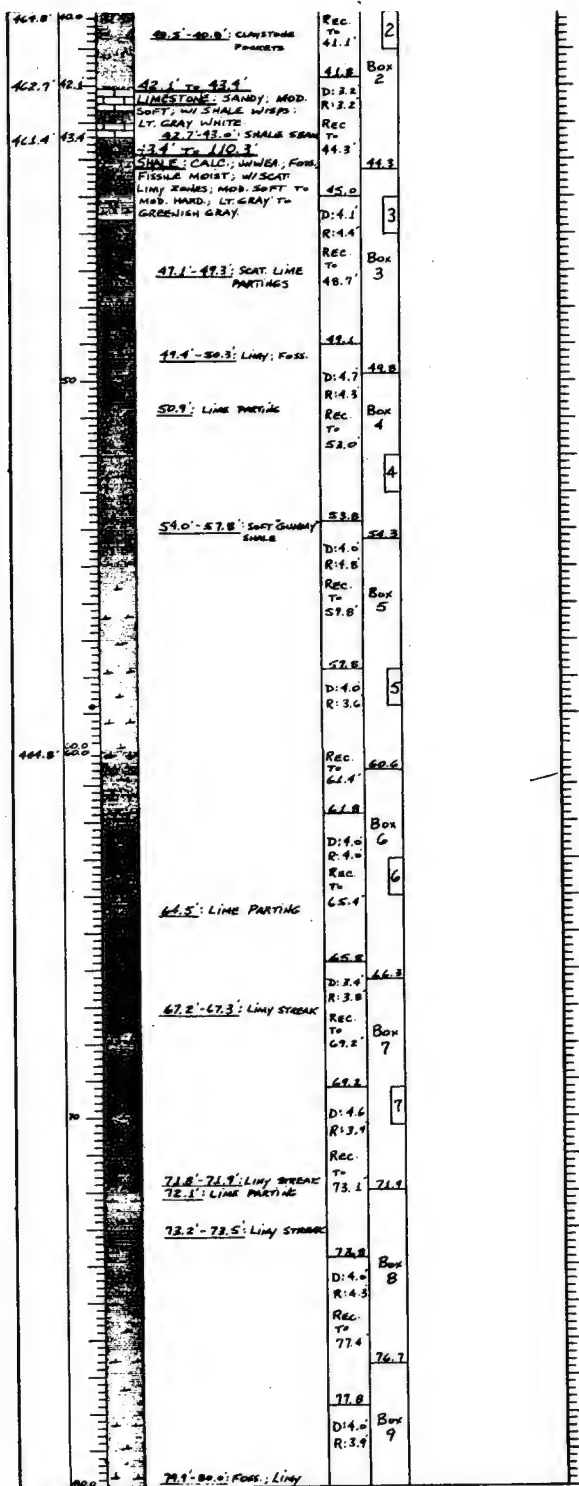
SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
<p align="center">U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS</p>			
DESIGNED BY:	<p align="center">AQUILLA LAKE AQUILLA CREEK, TEXAS</p> <p align="center">EMBANKMENT AND SPILLWAY</p> <p align="center">LOGS OF BORINGS 8A6C-17</p>		
DRAWN BY:			
CHECKED BY:			
SUBMITTED BY:			
ENGINEER:	INV. NO. DACWGS-80-B-0085	DATED: AUG. 1980	SEQUENCE NO.
	CONTR. NO. DACWGS-81-C-0035		
	DRAWING NUMBER	SHEET NO. 112	
		6-7 OF	

CONTR. NO. DACWGS-81-C-0035

Hole No. GDC-18

DRILLING LOG		DIVISION		INSTALLATION		HOLE NO.	
ADJUTANT GENERAL'S OFFICE		SWD		FWD		GDC-18	
1. PROJECT		2. DATE		3. SIZE AND TYPE OF BIT		4. DATE OF RECORDING	
ADJUTANT GENERAL'S OFFICE		1973		1 1/2" DIA. BIT		1973	
5. LOCATION		6. DEPTH		7. TOTAL NO. OF FEET		8. TOTAL NO. OF FEET	
ADJUTANT GENERAL'S OFFICE		1000		1000		1000	
9. DATE OF RECORDING		10. DATE OF RECORDING		11. DATE OF RECORDING		12. DATE OF RECORDING	
1973		1973		1973		1973	
13. DATE OF RECORDING		14. DATE OF RECORDING		15. DATE OF RECORDING		16. DATE OF RECORDING	
1973		1973		1973		1973	
17. DATE OF RECORDING		18. DATE OF RECORDING		19. DATE OF RECORDING		20. DATE OF RECORDING	
1973		1973		1973		1973	
21. DATE OF RECORDING		22. DATE OF RECORDING		23. DATE OF RECORDING		24. DATE OF RECORDING	
1973		1973		1973		1973	
25. DATE OF RECORDING		26. DATE OF RECORDING		27. DATE OF RECORDING		28. DATE OF RECORDING	
1973		1973		1973		1973	
29. DATE OF RECORDING		30. DATE OF RECORDING		31. DATE OF RECORDING		32. DATE OF RECORDING	
1973		1973		1973		1973	
33. DATE OF RECORDING		34. DATE OF RECORDING		35. DATE OF RECORDING		36. DATE OF RECORDING	
1973		1973		1973		1973	
37. DATE OF RECORDING		38. DATE OF RECORDING		39. DATE OF RECORDING		40. DATE OF RECORDING	
1973		1973		1973		1973	
41. DATE OF RECORDING		42. DATE OF RECORDING		43. DATE OF RECORDING		44. DATE OF RECORDING	
1973		1973		1973		1973	
45. DATE OF RECORDING		46. DATE OF RECORDING		47. DATE OF RECORDING		48. DATE OF RECORDING	
1973		1973		1973		1973	
49. DATE OF RECORDING		50. DATE OF RECORDING		51. DATE OF RECORDING		52. DATE OF RECORDING	
1973		1973		1973		1973	
53. DATE OF RECORDING		54. DATE OF RECORDING		55. DATE OF RECORDING		56. DATE OF RECORDING	
1973		1973		1973		1973	
57. DATE OF RECORDING		58. DATE OF RECORDING		59. DATE OF RECORDING		60. DATE OF RECORDING	
1973		1973		1973		1973	
61. DATE OF RECORDING		62. DATE OF RECORDING		63. DATE OF RECORDING		64. DATE OF RECORDING	
1973		1973		1973		1973	
65. DATE OF RECORDING		66. DATE OF RECORDING		67. DATE OF RECORDING		68. DATE OF RECORDING	
1973		1973		1973		1973	
69. DATE OF RECORDING		70. DATE OF RECORDING		71. DATE OF RECORDING		72. DATE OF RECORDING	
1973		1973		1973		1973	
73. DATE OF RECORDING		74. DATE OF RECORDING		75. DATE OF RECORDING		76. DATE OF RECORDING	
1973		1973		1973		1973	
77. DATE OF RECORDING		78. DATE OF RECORDING		79. DATE OF RECORDING		80. DATE OF RECORDING	
1973		1973		1973		1973	
81. DATE OF RECORDING		82. DATE OF RECORDING		83. DATE OF RECORDING		84. DATE OF RECORDING	
1973		1973		1973		1973	
85. DATE OF RECORDING		86. DATE OF RECORDING		87. DATE OF RECORDING		88. DATE OF RECORDING	
1973		1973		1973		1973	
89. DATE OF RECORDING		90. DATE OF RECORDING		91. DATE OF RECORDING		92. DATE OF RECORDING	
1973		1973		1973		1973	
93. DATE OF RECORDING		94. DATE OF RECORDING		95. DATE OF RECORDING		96. DATE OF RECORDING	
1973		1973		1973		1973	
97. DATE OF RECORDING		98. DATE OF RECORDING		99. DATE OF RECORDING		100. DATE OF RECORDING	
1973		1973		1973		1973	





RECORD DRAWING.

SYM	NO	ACTION

U.S. ARMY

DESIGNED BY: _____

DRAWN BY: _____

CHECKED BY: _____

SUBMITTED BY: _____

ENGINEER: _____

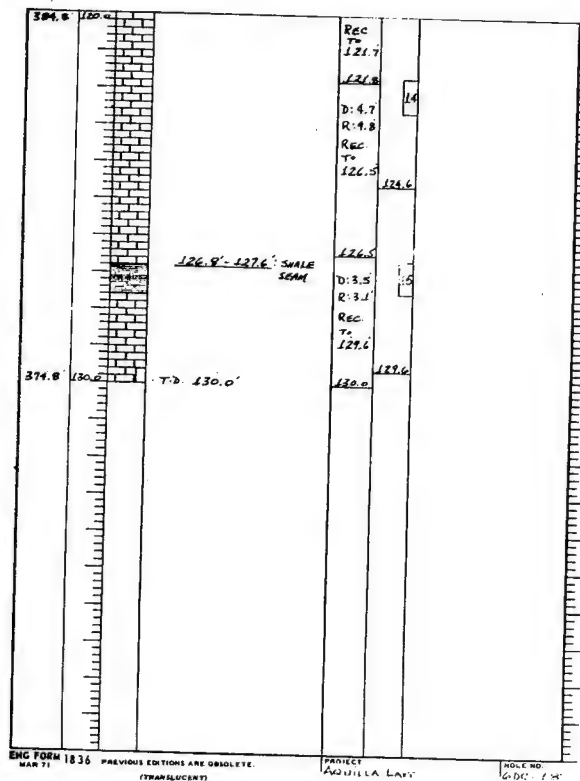
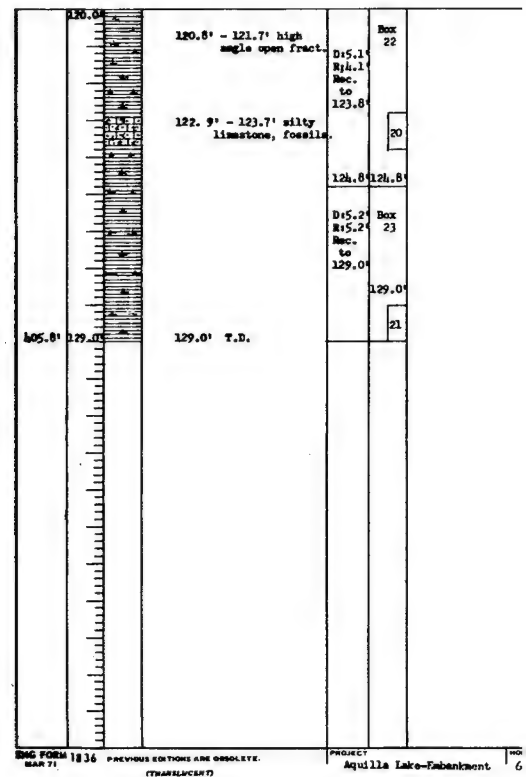
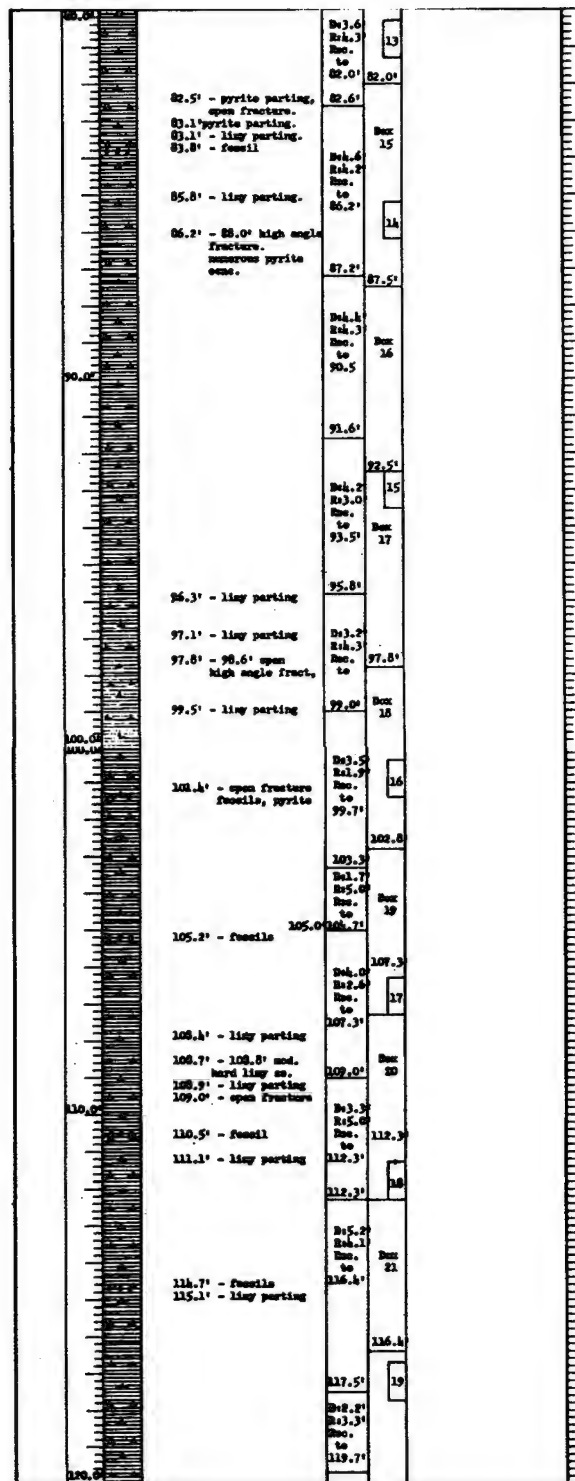
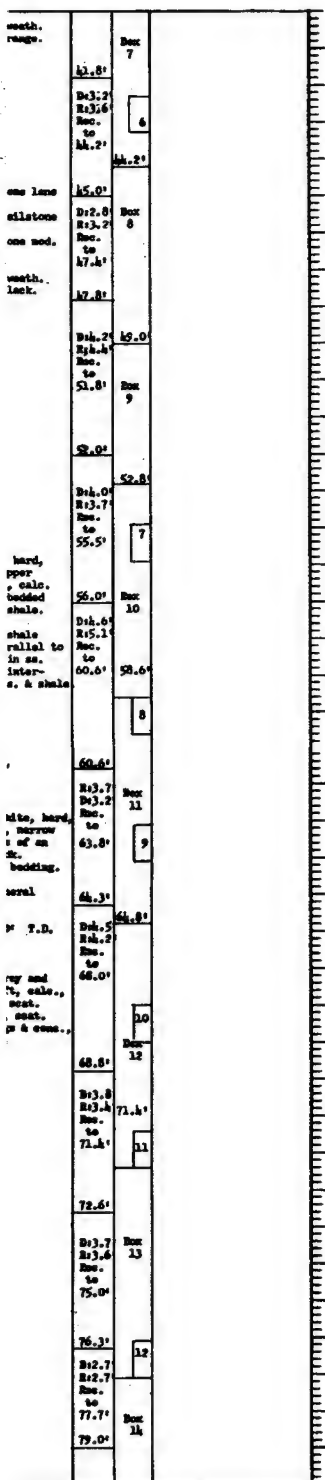
[illegible]

PLATE 39

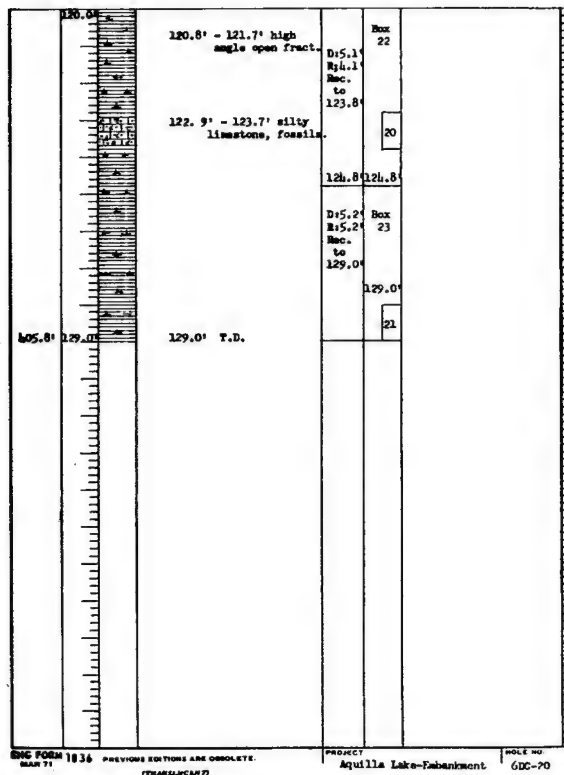
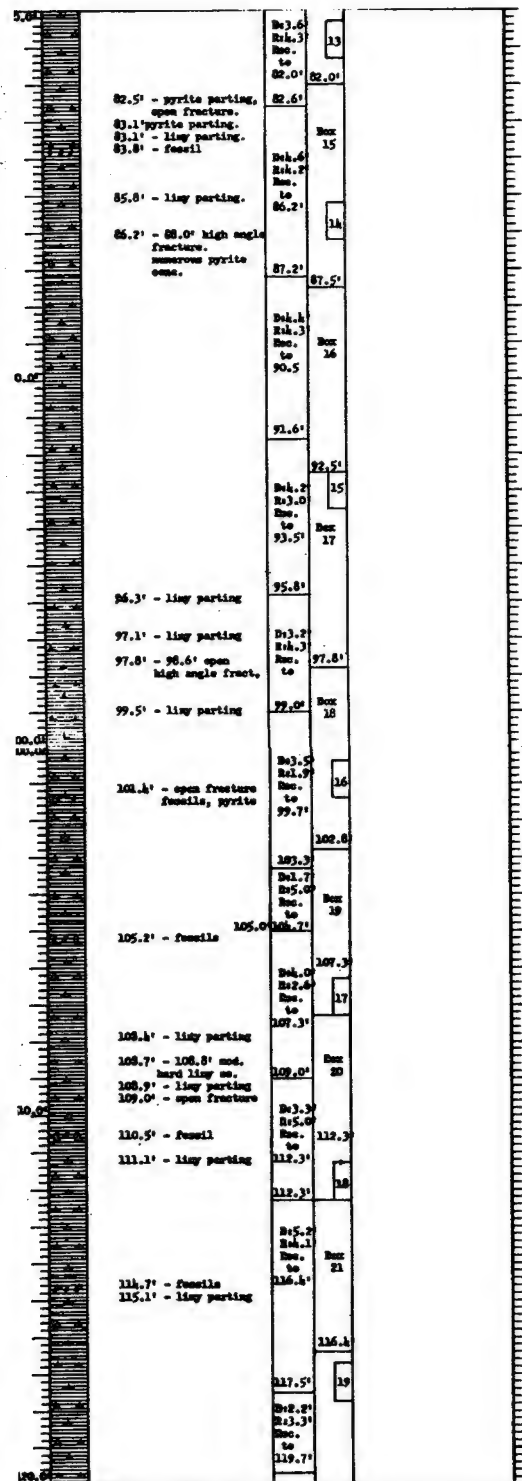
[illegible]

54.0'	40.6' - 42.3' weath. gummy, orange.	Box 7
	41.8'	
	Box 6	
	45.0' - siltstone lens	
	45.7' - 45.9' siltstone	Box 8
	46.7' - claystone med.	
	47.4' - 49.6' weath. gummy, black.	
	47.8'	
	Box 9	
	52.0'	
481.2'	53.6' to 60.6'	
	SANDSTONE -	
	Gray-brn, med. hard, non-calc. in upper section to sil. calc. at base, interbedded dr. gray soft shale.	Box 7
	53.9' - Sh. 9' shale frag. parallel to bedding in ss.	
	55.2' - 60.6' inter- bedded ss. & shale	Box 10
	60.0'	
476.2'	60.6' to 63.8'	
	LIMESTONE -	
	Gray-brn to white, hard, fossiliferous, narrow concretions of an unbedded dr. mineral along bedding.	Box 11
	61.0' - dr mineral	
471.0'	63.8' to 129.0' T.D.	
	SHALE -	
	Alternating gray and dus. gray, soft, calc., sil. fissile, cont. ling partings, cont. pyrite partings & congl., cont. fossils.	Box 12
	68.0'	
	Box 13	
	76.3'	
	Box 14	
	77.0'	



RECORD DRAWING-WORK AS BUILT

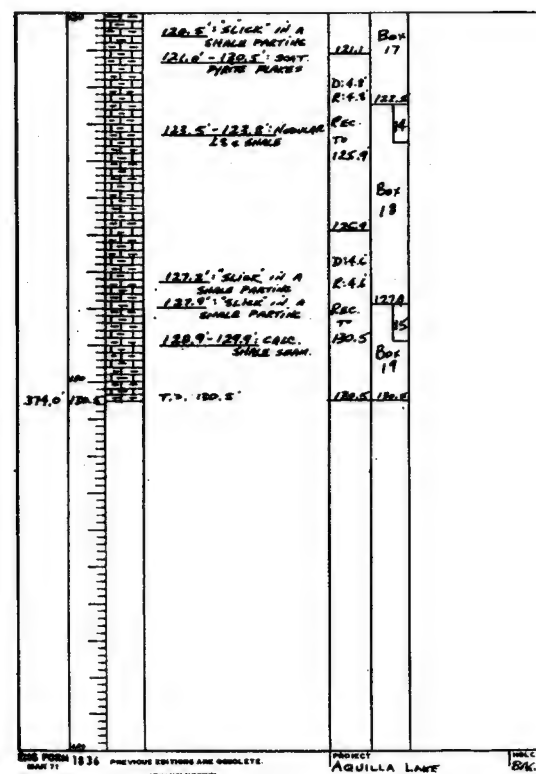
DATE	NO.	ACTION	DATE	DESCRIPTION OF REV.
U.S. ARMY ENGINEER DISTRICT, FORT WORTH, TEXAS				
DESIGNED BY: AQUILLA LAKE, AQUILLA CREEK, TEXAS				
DRAWN BY: EMBANKMENT AND SPI				
CHECKED BY: LOGS OF BORING				
SUBMITTED BY: 6DC-20				
ENGINEER: DRAWING NUMBER				



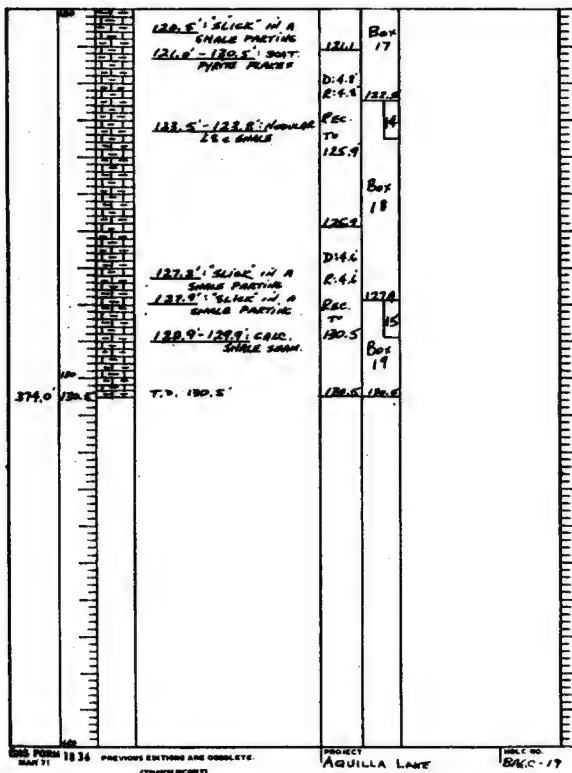
RECORD DRAWING-WORK AS BUILT

REVISING NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 6DC-20		
SUBMITTED BY:	INV. NO. DACN63-60-B-0008	DATED: AUG. 1960	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACN63-60-B-0008	DRAWING NUMBER	SHEET NO. 115

Section	Interval	Notes	Depth (ft)	Core No.
40.5' - 41.5'	40.5' - 40.8'	40.5' - 40.8' : Liny STRAC	40.5'	Boy 3
	40.8' - 41.5'	40.8' - 41.5' : Liny STRAC	41.5'	
	41.5' - 42.2'	41.5' - 42.2' : Liny STRAC	42.2'	
	42.2' - 42.9'	42.2' - 42.9' : Liny STRAC	42.9'	
	42.9' - 43.6'	42.9' - 43.6' : Liny STRAC	43.6'	
	43.6' - 44.3'	43.6' - 44.3' : Liny STRAC	44.3'	
	44.3' - 45.0'	44.3' - 45.0' : Liny STRAC	45.0'	
	45.0' - 45.7'	45.0' - 45.7' : Liny STRAC	45.7'	
	45.7' - 46.4'	45.7' - 46.4' : Liny STRAC	46.4'	
	46.4' - 47.1'	46.4' - 47.1' : Liny STRAC	47.1'	
47.1' - 48.1'	47.1' - 47.8'	47.1' - 47.8' : Liny STRAC	47.8'	Boy 4
	47.8' - 48.5'	47.8' - 48.5' : Liny STRAC	48.5'	
	48.5' - 49.2'	48.5' - 49.2' : Liny STRAC	49.2'	
	49.2' - 49.9'	49.2' - 49.9' : Liny STRAC	49.9'	
	49.9' - 50.6'	49.9' - 50.6' : Liny STRAC	50.6'	
	50.6' - 51.3'	50.6' - 51.3' : Liny STRAC	51.3'	
	51.3' - 52.0'	51.3' - 52.0' : Liny STRAC	52.0'	
	52.0' - 52.7'	52.0' - 52.7' : Liny STRAC	52.7'	
	52.7' - 53.4'	52.7' - 53.4' : Liny STRAC	53.4'	
	53.4' - 54.1'	53.4' - 54.1' : Liny STRAC	54.1'	
54.1' - 55.1'	54.1' - 54.8'	54.1' - 54.8' : Liny STRAC	54.8'	Boy 5
	54.8' - 55.5'	54.8' - 55.5' : Liny STRAC	55.5'	
	55.5' - 56.2'	55.5' - 56.2' : Liny STRAC	56.2'	
	56.2' - 56.9'	56.2' - 56.9' : Liny STRAC	56.9'	
	56.9' - 57.6'	56.9' - 57.6' : Liny STRAC	57.6'	
	57.6' - 58.3'	57.6' - 58.3' : Liny STRAC	58.3'	
	58.3' - 59.0'	58.3' - 59.0' : Liny STRAC	59.0'	
	59.0' - 59.7'	59.0' - 59.7' : Liny STRAC	59.7'	
	59.7' - 60.4'	59.7' - 60.4' : Liny STRAC	60.4'	
	60.4' - 61.1'	60.4' - 61.1' : Liny STRAC	61.1'	
61.1' - 62.1'	61.1' - 61.8'	61.1' - 61.8' : Liny STRAC	61.8'	Boy 6
	61.8' - 62.5'	61.8' - 62.5' : Liny STRAC	62.5'	
	62.5' - 63.2'	62.5' - 63.2' : Liny STRAC	63.2'	
	63.2' - 63.9'	63.2' - 63.9' : Liny STRAC	63.9'	
	63.9' - 64.6'	63.9' - 64.6' : Liny STRAC	64.6'	
	64.6' - 65.3'	64.6' - 65.3' : Liny STRAC	65.3'	
	65.3' - 66.0'	65.3' - 66.0' : Liny STRAC	66.0'	
	66.0' - 66.7'	66.0' - 66.7' : Liny STRAC	66.7'	
	66.7' - 67.4'	66.7' - 67.4' : Liny STRAC	67.4'	
	67.4' - 68.1'	67.4' - 68.1' : Liny STRAC	68.1'	
68.1' - 69.1'	68.1' - 68.8'	68.1' - 68.8' : Liny STRAC	68.8'	Boy 7
	68.8' - 69.5'	68.8' - 69.5' : Liny STRAC	69.5'	
	69.5' - 70.2'	69.5' - 70.2' : Liny STRAC	70.2'	
	70.2' - 70.9'	70.2' - 70.9' : Liny STRAC	70.9'	
	70.9' - 71.6'	70.9' - 71.6' : Liny STRAC	71.6'	
	71.6' - 72.3'	71.6' - 72.3' : Liny STRAC	72.3'	
	72.3' - 73.0'	72.3' - 73.0' : Liny STRAC	73.0'	
	73.0' - 73.7'	73.0' - 73.7' : Liny STRAC	73.7'	
	73.7' - 74.4'	73.7' - 74.4' : Liny STRAC	74.4'	
	74.4' - 75.1'	74.4' - 75.1' : Liny STRAC	75.1'	
75.1' - 76.1'	75.1' - 75.8'	75.1' - 75.8' : Liny STRAC	75.8'	Boy 8
	75.8' - 76.5'	75.8' - 76.5' : Liny STRAC	76.5'	
	76.5' - 77.2'	76.5' - 77.2' : Liny STRAC	77.2'	
	77.2' - 77.9'	77.2' - 77.9' : Liny STRAC	77.9'	
	77.9' - 78.6'	77.9' - 78.6' : Liny STRAC	78.6'	
	78.6' - 79.3'	78.6' - 79.3' : Liny STRAC	79.3'	
	79.3' - 80.0'	79.3' - 80.0' : Liny STRAC	80.0'	
	80.0' - 80.7'	80.0' - 80.7' : Liny STRAC	80.7'	
	80.7' - 81.4'	80.7' - 81.4' : Liny STRAC	81.4'	
	81.4' - 82.1'	81.4' - 82.1' : Liny STRAC	82.1'	
82.1' - 83.1'	82.1' - 82.8'	82.1' - 82.8' : Liny STRAC	82.8'	Boy 9
	82.8' - 83.5'	82.8' - 83.5' : Liny STRAC	83.5'	
	83.5' - 84.2'	83.5' - 84.2' : Liny STRAC	84.2'	
	84.2' - 84.9'	84.2' - 84.9' : Liny STRAC	84.9'	
	84.9' - 85.6'	84.9' - 85.6' : Liny STRAC	85.6'	
	85.6' - 86.3'	85.6' - 86.3' : Liny STRAC	86.3'	
	86.3' - 87.0'	86.3' - 87.0' :		



U.S. ARMY ENGINEER DISTRICT, FORT CORPS OF ENGINEERS FORT WORTH, TEXAS	
DESIGNED BY: ----- CHECKED BY: ----- QUANTITY BY: -----	AQUILLA LAKE AQUILLA CREEK, TEXAS EMBANKMENT AND SPILL LOGS OF BORINGS 8A6C-21 AND 6DC-22
SUBMITTED BY: ----- DRAWER:	INV. NO. DACW62-80-B-00 CONTR. NO. DACW62-81- DRAWING NUMBER



RECORD DRAWING-WORK AS BUILT

U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS	
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS
DRAWN BY:	EMBANKMENT AND SPILLWAY
CHECKED BY:	LOGS OF BORINGS 8A6C-21 AND 6DC-22
SUBMITTED BY:	INV. NO. DACH63-80-B-0085 DATED: AUG. 1960
ENGINEER:	CONTR. NO. DACH63-81-C-0053 DRAWING NUMBER: 8-11 OF 116 SEQUENCE NO. 116

46.0- 42.3		42.3' to 49.7'	SANDSTONE -	D:4.7' R:4.6' Rec. to 43.7'	Box 7
			Gray, med. to fine-grained, crossbedded, interbedded mod. hard to soft sandstone, calc. non-calcl. shaley portions, pyritic, w/crime colored, non-calcl. claystone seams and lenses.	43.8'	
			42.5' - 43.2' soft shaley sandstone	D:4.2' R:4.2' Rec. to 43.7'	7
			43.2' - 43.7' hard, calc. sandstone, w/low angle fracture.	47.9'	Box 8
			44.0' - 44.3'. 47.5' - 47.7'. zones of hard sandstone.	48.0'	
			47.8' - 49.2' Dark mineral or dark fossil frags. along bedding of ss.	D:2.0' R:1.8' Rec. to 49.7'	8
			48.3' - 48.4', 48.7' - 48.8', seams of crime colored non-calcl. claystone.	50.0'	
			49.2' 49.3' pyritic sandstone	D:3.8' R:3.3' Rec. to 53.0'	51.2'
			49.5' - 49.7' black non-calcl. shale, w/scat. white ss whips, dark fossil frags.	53.0'	9
				53.8'	
		49.7' to 50.0'	LIMESTONE -	D:4.3' R:3.8' Rec. to 56.8'	Box 9
			White, crystalline, fine-grained, pyritic, mod. hard, appearance of an unconformity at base.		10
				50.1'	
				D:2.4' R:2.6' Rec. to 59.4'	11
		50.0' to 59.4'	SHALE -		
			Dark gray to black, silty calcl., fossiliferous, w/scat. crime colored claystone seams, limestone seams and open fractures.		
			50.7' crime colored claystone seam		
			51.2' open fracture along bedding		
			51.9' claystone seam		
			52.0' - 53.0' scat. claystone seams		
			53.3' - 53.5' low angle open fracture.		
			53.7' - 53.9' low angle tight fracture		
			53.9' - 55.7' Limestone soft to mod. hard, silty, fossiliferous, gray.		
			55.2' open low angle fracture.		
			55.7' - 59.4' dark gray to black shale, calc.		

Hole No. BA-24

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		SMD		FWU		1 OF 1 SHEETS	
Aquila Lake - Embankment				11. DATE FOR ELEVATION DETERMINATION (MMS)			
E. LOCATION (Continuation of Record)				MSL			
E. 2,090,370 N. 81,425				12. MANUFACTURER'S DESIGNATION OF DRILL			
USCI-C				Falling 1500			
13. TOTAL NO. OF DYPS.				DISTURBED		UNDISTURBED	
5				5		0	
14. TOTAL NUMBER CORE BOXES				0			
15. ELEVATION GROUND WATER				0			
16. DATE HOLE				STARTED		COMPLETED	
1 Aug. '73				1 Aug. '73		1 Aug. '73	
17. ELEVATION TOP OF HOLE				502.5'			
18. TOTAL CORE RECOVERY FOR BORING				1			
19. NATURE OF SUBSTRCTION				Sandy Siltstone			
ELEVATION		DEPTH		CLASSIFICATION OF MATERIALS		REMARKS	
502.5'		0.0'		0.0' to 5.0'		1. 8" Auger	
				CLAY -		0.0' - 18.0'	
				Brown, silty, moist,		2. Jars:	
				plastic, med. plasticity,		A: 0.0' - 5.0'	
				calc., smooth.		B: 5.0' - 8.5'	
						C: 8.5' - 14.0'	
						D: 14.0' - 16.0'	
						E: 16.0' - 18.0'	
				5.0' to 8.5'		3. 24 hour check -	
				CLAY -		water level was 3.0'	
				Lt. brown, moist, silty,			
				med. plasticity, calc.,			
				soft, smooth.			
				8.5' to 14.0'			
				CLAY -			
				Dark brown, hard, silty,			
				moist, scat. caliche,			
				silty, high plasticity,			
				calc.			
				14.0' to 16.0'			
				CLAY -			
				Olive-brown, w/gray &			
				orange streaks, sticky,			
				smooth, silty, high			
				plasticity, gypsum			
				crystals, non-calc.			
				16.0' to 18.0'			
				SHALE -			
				Gray, badly weath.,			
				orange & brown stains,			
				clayey, soft, non-			
				calc.			
				18.0' T. D.			

NOTE:
The clay shown between 14.0' and 16.0' is interpreted as being highly weathered, non-calcareous shale.
Henry M. Rusk

BSG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE. PROJECT HOLE NO.

RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT V CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWA		
CHECKED BY:	LOGS OF BORINGS 8AGC-23 AND 8A-24		
SUBMITTED BY:	INV. NO. DACW63-80-B-0085		
ENGINEER:	CONTR. NO. DACW63-81-C-2		
	DRAWING NUMBER		
	SHEET		
	B-12		

TO ACCOMPANY FINAL FOUNDATION REPORT

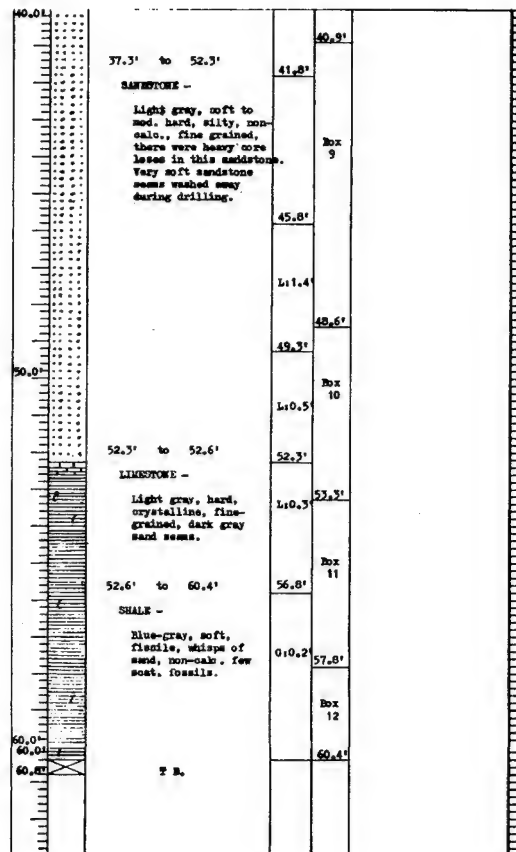
PLATE

RECORD DRAWING-WORK AS BUILT

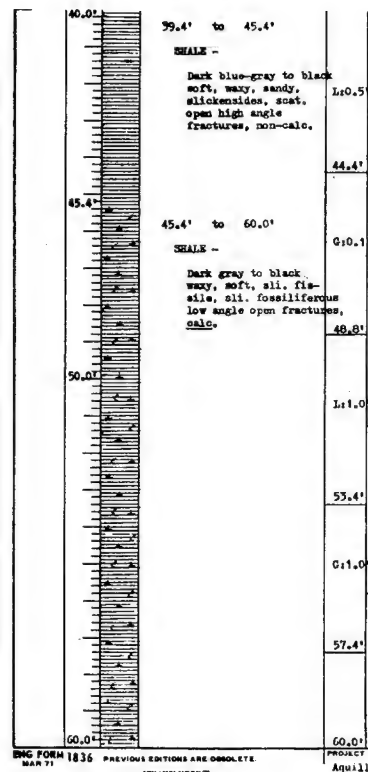
SYM. OR NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-23 AND 8A-24		
SUBMITTED BY:	INV. NO. DACW63-80-B-0005	DATED: AUG. 1980	
ENGINEER:	CONTR. NO. DACW63-81-C-0035	SHEET NO.	SEQUENCE NO.
	DRAWING NUMBER	18-12 OF	117

CONTR. NO. DACW63-81-C-0035

DRILLING LOG		Division	INSTALLATION	Make No.	0660-75		
PROJECT: Aquila Lake - Embankment		SEP	FED	Sheet 1 of 4 sheets			
C. LOCATION (Continuation of Standard)		10. SEE AND TYPE OF BIT: 6" Carbide					
D. DRILLING AGENCY: Corps of Engineers		11. DAYTON ELEVATION (Bore hole - 200)					
E. DATE: 10/1/73		12. MANUFACTURER'S IDENTIFICATION OF DRILL: MLI					
F. NAME OF DRILLER: G. Schoonover		13. FALLING 1500					
G. DATE OF LOG: 10/1/73		14. TOTAL NO. OF CORES: 4					
H. ELEVATION GROUND WATER: 54.9'		15. TOTAL NUMBER CORE BOXES: 12					
I. DIRECTION OF HOLE: <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED		16. ELEVATION GROUND WATER: 54.9'					
J. THICKNESS OF OVERBURDEN: 5.5'		17. DATE HOLE: 18 Dec. '73					
K. DEPTH DRILLED INTO ROCK: 54.9'		18. ELEVATION TOP OF HOLE: 59.7					
L. TOTAL DEPTH OF HOLE: 60.4'		19. SIGNATURE OF INSPECTOR: [Signature]					
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Description)	1. CORE NO.	2. CORE LENGTH	3. CORE WEIGHT	REMARKS (Logging data, water level, depth of weathering, etc., if significant)
0.0'	0.0'		0.0' to 3.2'	0.0'			1. 10" Vlight Auger 0.0' - 7.0'
			SAND -	2.0'			6" Core Barrel 7.0' - 60.8'
			0.0' - 2.0' Tanish brown, silty, all. clayey, med. dense, all. moist, friable, low plasticity, non-cal.	3.2'			7.0' of 8" casing was set.
			2.0' - 3.2' Orange tan, very dense, steel blue sandy nodules, very clayey, med. to high plasticity, moist non-cal., soil. quartzite coarse sand grains.	5.5'			3. Jars: A: 0.0' - 2.0' B: 2.0' - 3.2' C: 3.2' - 5.5' D: 5.5' - 6.5'
5.5'	3.2'		3.2' to 5.5'	5.5'			4. After drilling the hole was bailed to 55.4'.
6.5'	5.5'		CLAY -	7.0'			
6.8'	6.5'		Gray brown, sandy, hard, all. moist, low plasticity, calc., rounded limestone, quartzite, chert, pebbles, angular hard crystalline tabular cobbles.	9.8'			Set 60.0' of plastic slotted pipe.
10.0'	10.0'		5.5' to 6.5'	11.1'			5. Hole was X-logged 21 Dec. '73.
			SHALE -	15.0'			
			Gray, tan, weath., stained, gray powder, limine, sandy, all. fissile, soft, non-cal.	17.8'			
			6.5' to 6.8'	18.7'			
			SANDSTONE -	21.8'			
			Light tan to white, soft, all. laminated, fine to med. grained, ground up by auger no sample.	22.9'			
20.0'	20.0'		6.8' to 37.3'	27.0'			
			SHALE -	29.3'			
			Blue-gray, weathered, gummy, fissile, non-cal. sandy lenses, high and low angle fractures, open and tight fractures, ironstone concretions.	32.2'			
			6.8' - 17.8' heavily stained fractures.	33.8'			
			17.8' - 21.8' very sandy seams and lenses.	37.8'			
30.0'	30.0'			40.0'			
				41.8'			
				45.8'			
				48.6'			
				49.3'			
				52.3'			
				52.3'			
				56.8'			
				57.8'			
				60.4'			

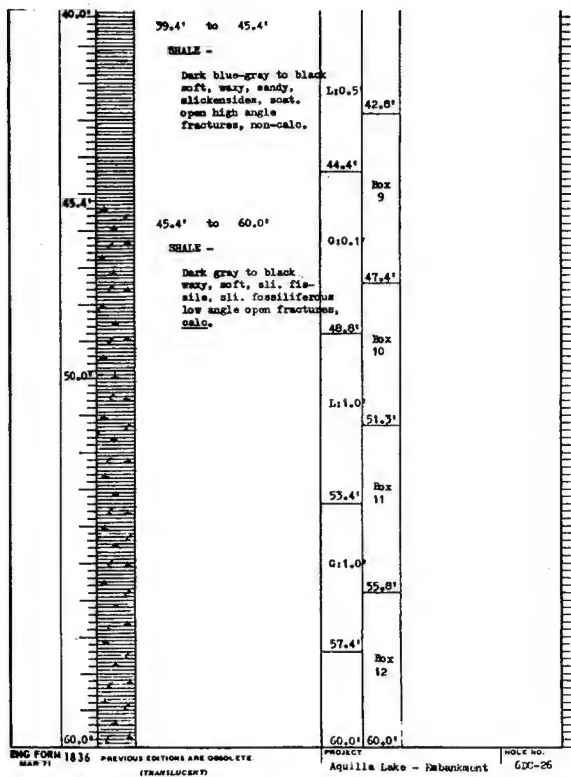


DRILLING LOG		SURFICIAL		REMARKS	
1. PROJECT Aguilla Lake - Rehabilitation		2. SITE AND TYPE OF HOLE 6" Carbide, 6" Diamond		3. DATE OF SURVEY 11 Dec. '73	
4. LOCATION (Continuation of Number)		5. HOLE DEPTH 60.0'		6. HOLE NUMBER 12	
7. HOLE ASSEMBLY Box 9		8. HOLE DEPTH 60.0'		9. HOLE NUMBER 12	
10. HOLE DEPTH 60.0'		11. HOLE NUMBER 12		12. HOLE NUMBER 12	
13. HOLE DEPTH 60.0'		14. HOLE NUMBER 12		15. HOLE NUMBER 12	
16. HOLE DEPTH 60.0'		17. HOLE NUMBER 12		18. HOLE NUMBER 12	
19. HOLE DEPTH 60.0'		20. HOLE NUMBER 12		21. HOLE NUMBER 12	
22. HOLE DEPTH 60.0'		23. HOLE NUMBER 12		24. HOLE NUMBER 12	
25. HOLE DEPTH 60.0'		26. HOLE NUMBER 12		27. HOLE NUMBER 12	
28. HOLE DEPTH 60.0'		29. HOLE NUMBER 12		30. HOLE NUMBER 12	
31. HOLE DEPTH 60.0'		32. HOLE NUMBER 12		33. HOLE NUMBER 12	
34. HOLE DEPTH 60.0'		35. HOLE NUMBER 12		36. HOLE NUMBER 12	
37. HOLE DEPTH 60.0'		38. HOLE NUMBER 12		39. HOLE NUMBER 12	
40. HOLE DEPTH 60.0'		41. HOLE NUMBER 12		42. HOLE NUMBER 12	
43. HOLE DEPTH 60.0'		44. HOLE NUMBER 12		45. HOLE NUMBER 12	
46. HOLE DEPTH 60.0'		47. HOLE NUMBER 12		48. HOLE NUMBER 12	
49. HOLE DEPTH 60.0'		50. HOLE NUMBER 12		51. HOLE NUMBER 12	
52. HOLE DEPTH 60.0'		53. HOLE NUMBER 12		54. HOLE NUMBER 12	
55. HOLE DEPTH 60.0'		56. HOLE NUMBER 12		57. HOLE NUMBER 12	
58. HOLE DEPTH 60.0'		59. HOLE NUMBER 12		60. HOLE NUMBER 12	
61. HOLE DEPTH 60.0'		62. HOLE NUMBER 12		63. HOLE NUMBER 12	
64. HOLE DEPTH 60.0'		65. HOLE NUMBER 12		66. HOLE NUMBER 12	
67. HOLE DEPTH 60.0'		68. HOLE NUMBER 12		69. HOLE NUMBER 12	
70. HOLE DEPTH 60.0'		71. HOLE NUMBER 12		72. HOLE NUMBER 12	
73. HOLE DEPTH 60.0'		74. HOLE NUMBER 12		75. HOLE NUMBER 12	
76. HOLE DEPTH 60.0'		77. HOLE NUMBER 12		78. HOLE NUMBER 12	
79. HOLE DEPTH 60.0'		80. HOLE NUMBER 12		81. HOLE NUMBER 12	
82. HOLE DEPTH 60.0'		83. HOLE NUMBER 12		84. HOLE NUMBER 12	
85. HOLE DEPTH 60.0'		86. HOLE NUMBER 12		87. HOLE NUMBER 12	
88. HOLE DEPTH 60.0'		89. HOLE NUMBER 12		90. HOLE NUMBER 12	
91. HOLE DEPTH 60.0'		92. HOLE NUMBER 12		93. HOLE NUMBER 12	
94. HOLE DEPTH 60.0'		95. HOLE NUMBER 12		96. HOLE NUMBER 12	
97. HOLE DEPTH 60.0'		98. HOLE NUMBER 12		99. HOLE NUMBER 12	
100. HOLE DEPTH 60.0'		101. HOLE NUMBER 12		102. HOLE NUMBER 12	



RECORD DRAWING-

U.S. ARMY	
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SUBMITTED BY:	
ENGINEER:	

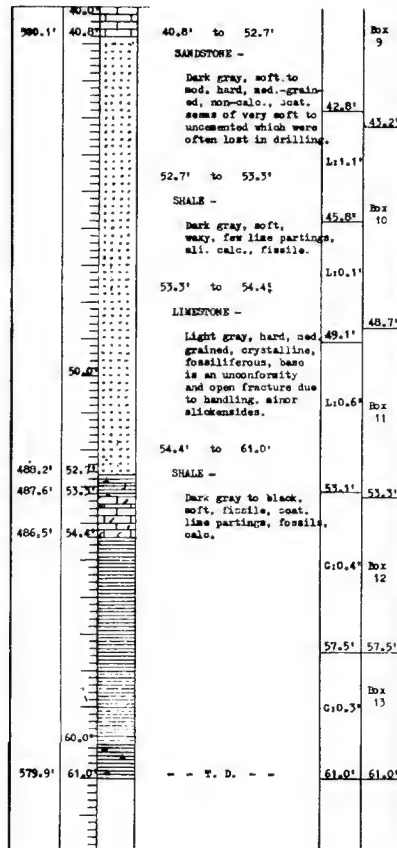


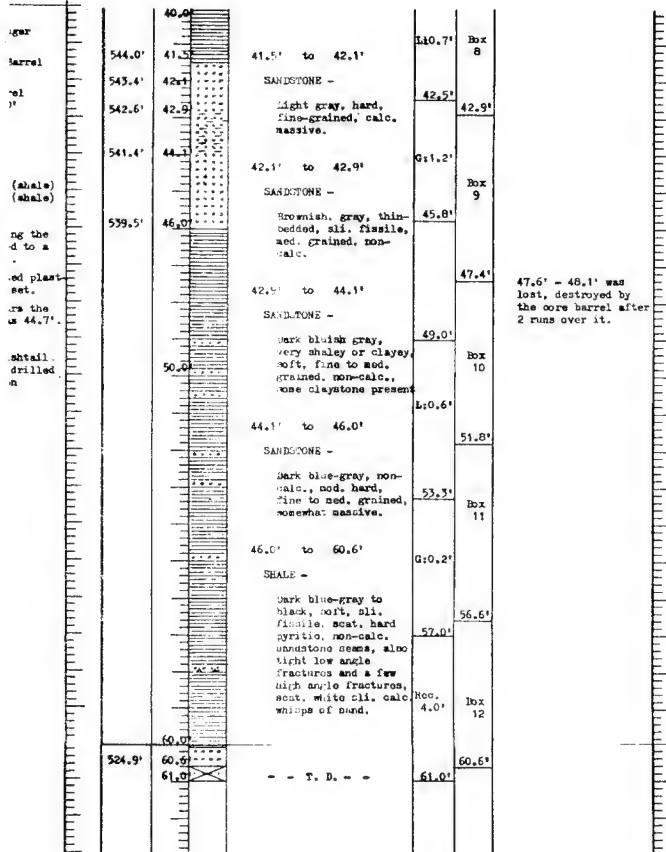
RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-25 AND 6DC-26		
SUBMITTED BY:	INV. NO. DACW63-80-B-0085	DATED: AUG. 1980	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACW63-80-B-0085	DRAWING NUMBER	SHEET NO. 118
		8-13 OF	

Hole No. PACG-77

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		SND		FWD		OF 4 SHEETS	
1. PROJECT Aquilla Lake - Rehabilitation				10. SIZE AND TYPE OF BIT 11. EXTENSION FROM ELEVATION TO BOTTOM OF HOLE			
2. LOCATION (Coordinates or Map)				12. MANUFACTURER'S DESIGNATION OF DRILL 13. TOTAL NO. OF CORE BUNDLES TAKEN		DISTURBED 3 UNDISTURBED 0	
3. DRILLING AGENCY USACE				14. TOTAL NUMBER CORE BOXES 15. ELEVATION GROUND WATER		13 [COMPLETED]	
4. HOLE NO. (As shown on existing title and this number)		PACG-77		16. DATE MOLE 17. ELEVATION TOP OF MOLE		16 Jan. '74 540.9'	
5. NAME OF DRILLER G. Schoonover				18. TOTAL CORE RECOVERY FOR BORING 19. SIGNATURE OF INSPECTOR		[COMPLETED] [Signature]	
6. DIRECTION OF HOLE (E) Vertical (I) Inclined (S) See from vert.				17. ELEVATION TOP OF MOLE 18. TOTAL CORE RECOVERY FOR BORING		540.9' [COMPLETED]	
7. THICKNESS OF OVERBURDEN 8. DEPTH DRILLED TO BED ROCK 9. TOTAL DEPTH OF MOLE		2.5' 27.5' 61.0'					
ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF MATERIALS (Prescriptions)	1. CORE BOX OR RECORD NO.	2. REMARKS (Drilling time, water level, depth of penetration, etc., if significant)		
540.9'	0.0'		0.0' to 0.7'	A	0.0'		
			SAND -	B	0.7'		
			Dark brown, loose, moist, med.-grained, low plasticity, silty, clayey, non-calc.	1.9'			
				C			
537.4'	3.5'		0.7' to 3.5'	3.5'	3.5'		
537.2'	3.7'		CLAY -	4.7'			
			0.7' - 1.9' Orange-tan, med. stiff, med. to high plasticity, sandy, silty, non-calc.	1.1.9'	Box 1		
534.9'	6.0'		1.9' - 3.5' Tanish brown, stiff, moist, sandy, med. to high plasticity, non-calc. silt. coars. sand silt. clay and sandstone.	6.6'			
				0.0.2'			
			3.5' to 3.7'	9.4'			
			LIMESTONE -	Box 2			
			Light gray, hard, fine-grained, crystalline.	1.1.0.2'			
			3.7' to 6.0'	13.2'			
			SANDSTONE -	13.8'			
			Tan and brown, light gray, med. hard to soft interbedded sands, weathered, stained, fine to med. grained, silt. coars. of soft gray shale.	1.0.3'	Box 3		
				16.9'			
			6.0' to 21.8'	17.0'			
			SHALE -	Box 4			
			Light gray, weathered stained to light brown and fracturing, soft, fissile, silt. sandstone.	0.0.5'			
			21.8' to 37.8'	21.4'			
			SHALE -	21.8'			
			Dark blue gray, soft, fissile, non-calc., silty, sandy, few silt. nodules of claystone, gypsiferous, few tight fractures.	0.0.4'	Box 5		
				25.8'	25.8'		
				1.0.2'	Box 6		
				29.1'			
				30.5'			
				1.0.1'	Box 7		
				33.8'			
			38.8' to 40.8'	35.1'			
			LIMESTONE -	0.0.5'	Box 8		
			Gray, hard, fine-grained, crystalline, fossiliferous.	37.8'			
				1.0.2'	38.8'		





FORM 60	NO.	ACTION	DATE	DESCRIPTION OF REVISION
<p align="center">U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS</p>				
DESIGNED BY:	<p align="center">AQUILLA LAKE AQUILLA CREEK, TEXAS</p>			
DRAWN BY:	<p align="center">EMBANKMENT AND SPILLWAY</p>			
CHECKED BY:	<p align="center">LOGS OF BORINGS 8A6C-27 AND 6DC-28</p>			
SUBMITTED BY:	INV. NO. DACWG63-B-0065	DATED:	AUG. 1960	
ENGINEER:	CONTR. NO. DACWG 63-B1-C-0033	SHEET NO.	119	
	DRAWING NUMBER	8-14	OF	

FORM NO.

DRILLING LOG		Division	INSTALLATION		Sheet 1 of 2 sheets
PROJECT		SWD	FUD		DATE
Aquilla Lake - Embankment			6" Bore and Type of Bit		6" Carbide
LOCATION (Continuation of Section)			DATE FOR ELEVATION		1977
DRILLING METHOD			TYPE OF DRILL		Hand
DRILLER			Filling		1500
DATE OF LOG			DATE OF LOG		4
NAME OF DRILLER			DATE OF LOG		0
C. Schoonover			DATE OF LOG		0
DIRECTION OF HOLE			DATE OF LOG		0
THICKNESS OF OVERBURDEN			DATE OF LOG		0
DEPTH DRILLED INTO ROCK			DATE OF LOG		0
TOTAL DEPTH OF HOLE			DATE OF LOG		0
ELEVATION			DATE OF LOG		0
DEPTH			DATE OF LOG		0
LEGEND			DATE OF LOG		0
CLASSIFICATION OF MATERIALS			DATE OF LOG		0
CLAY			DATE OF LOG		0
0.0' - 2.0' Tanish brown, sandy, moist, stiff, med. to high plasticity, calc., nodules.			DATE OF LOG		0
2.0' - 4.0' Brown, moist, sandy, silty, stiff, high plasticity, coarse sand size ironstone, sandstone, chert, non-calc.			DATE OF LOG		0
4.0' - 4.8' Gray-brown, sandy, silty, moist, stiff, high plasticity, calc., calcite nodules to 3mm.			DATE OF LOG		0
4.8' to 39.6'			DATE OF LOG		0
SHALE			DATE OF LOG		0
19.6' - 23.2' numerous interbedded lenses and seams of light gray, fine to med. grained, non-calc., sandstone. These are thin-bedded and flaggy, soft to med. hard, crossbedded, stained.			DATE OF LOG		0
23.2' - 26.3' very light, stained, sandy silts with gypsum fill.			DATE OF LOG		0
26.3' No longer weathered.			DATE OF LOG		0
26.8' - 39.6' coat. hard sandstone seams calcite fills both high and low angle fractures.			DATE OF LOG		0
Remarks			DATE OF LOG		0
1. 10 Flight Auger 0.0' - 7.0'			DATE OF LOG		0
6" Core Barrel 7.0' - 40.0'			DATE OF LOG		0
2. Jars:			DATE OF LOG		0
A: 0.0' - 2.0'			DATE OF LOG		0
B: 2.0' - 4.0'			DATE OF LOG		0
C: 4.0' - 4.8'			DATE OF LOG		0
D: 4.8' - 7.0' (shale)			DATE OF LOG		0
3. Hole was bailed to 34.6'.			DATE OF LOG		0
40' of slotted plastic pipe was set.			DATE OF LOG		0
4. A 70.0' fishtail hole was E-logged 10 January '74.			DATE OF LOG		0

DRILLING LOG		DIVISION	PROJECT	DATE	NO. OF SHEETS
Wellbore Data - Submergence		10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822.			

TO ACCOMPANY FINAL FOUNDATION REPORT

DRILLING LOG		Division		Battalion		Company		Sheet	
PROJECT		3RD		PFD		RA-13		SHEET 1 OF 1 SHEETS	
LOCATION (Coordinate or Name)		Aquila Dam		SITE AND TYPE OF SITE		RA-13		DATE OF SITE	
DRILLING AGENCY		Ops of Engineers		MANUFACTURE'S DESIGNATION OF SOIL		Falling 1500		DATE OF SOIL	
HOLE NO. (As shown on drawing and this record)		8A-33		TOTAL NO. OF SOIL SAMPLES TAKEN		6		UNDISTURBED	
NAME OF DRILLER		Schroeder		TOTAL NUMBER CORE SAMPLES		0		UNDISTURBED	
DIRECTION OF HOLE		VERTICAL		DATE MOLE		12 Sept. 74		COMPLETED	
THICKNESS OF OVERBURDEN		5.5'		ELEVATION TOP OF HOLE		512.1'			
DEPTH DRILLED INTO ROCK		5'		TOTAL CORE RECOVERY OR BORING					
TOTAL DEPTH OF HOLE		10.0'		SIGNATURE & POSITION		[Signature]			
ELEVATION		DEPTH		LEGEND		CLASSIFICATION OF MATERIALS		REMARKS	
0.0'		0.0' to 2.3'		CLAY		0.0' to 2.3'		1. Making water from 7.0' Water level 5.2' 20min check. Level 5.0' 13 Sept. 74.	
2.3'		2.3' to 5.4'		Low to medium plasticity, stiff, moist, yellow brown, slightly sandy, scattered small white calcareous nodules.		2.3' to 5.4'		2. JARS: A. 0.0' to 2.3' B. 2.3' to 5.4' C. 5.4' to 8.2' D. 8.2' to 8.5' E. 8.5' to 9.5' F. 9.5' to 10.0'	
5.4'		5.4' to 8.5'		(Borderline sand), probably interbedded clay & sand, Low plasticity, stiff, moist, brown to tan, scattered gravel, sandy.		5.4' to 8.5'		3. All overburden calcareous	
8.5'		8.5' to 9.5'		Becomes lo to medium plasticity, brown & gray gravelly (lenticular) very stiff from 8.2' to 8.5'		8.5' to 9.5'		4. Boring casing from 5.5'	
9.5'		9.5' to 10.0'		SHALE		9.5' to 10.0'		5. Set 9.5' 4" plastic pipe 12 Sept. 74.	
10.0'		10.0'		T.D. 10.0'		10.0'			

RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-29, 6DC-30, 8A-32 AND 33		
SUBMITTED BY:	INV. NO. DACW63-80-B-0085	DATED: AUG. 1980	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACW63-81-C-0055	DRAWING NUMBER	SHEET NO. 120

CONTR. NO. DACW63-81-C-0055

	<p>29.5' to 41.2'</p> <p><u>SAND & SANDSTONE</u> Finely interbedded. Sand is dry sandy & silty & slightly calc. Sandstone is silty & silty & calc. in partings in both materials. Interval is dark gray.</p> <p>41.2' to 49.6'</p> <p><u>SANDSTONE</u>, v. calc. / Limestone, v. sandy.</p> <p>49.6' to 62.4'</p> <p><u>SANDSTONE</u>: silty, gray calc., slightly friable, mod. hard, gray concretions abundant ss. streaks with shaly partings. Partings are somewhat calc.</p> <p>62.4' to 62.6'</p> <p><u>LIMESTONE</u>: sandy, shaly. Contains fossils. A mixture.</p> <p>62.6' to 63.6'</p> <p><u>LIMESTONE</u>: argill- leous, mod. hard to near hard, top 405' is rust stained.</p> <p>63.6' to 69.4'</p> <p><u>SHALE</u>: unwe., calc. mod hard to soft, gray to dark gray.</p> <p>69.4' to 72.9'</p> <p>Contains thin limestone lenses</p> <p>72.9' to 73.2'</p> <p>Apparently drilled up.</p> <p>73.2' to 73.7'</p> <p>soft.</p> <p>contains clay partings</p> <p>73.7' to 74.4'</p> <p>very soft, mod. hard, banding of very argillaceous limestone.</p> <p>T.D.C 690'</p>	<p>PROJECT</p> <p>Avilla Dam</p>	<p>SHEET 5</p> <p>1966-34</p>
	<p>NSC FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.</p> <p>MAR 71</p>	<p>NSC FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.</p> <p>MAR 71</p>	

69.5' to 61.2'
SHALE & SANDSTONE
 Finely interbedded. Shale
 is very sandy & silty,
 slightly calc. Sandstone
 is slightly silty & calc.
 silty parting in both
 materials. Interval is
 soft, gray.
 62.5-69.6 Sandstone,
 v. calc. / Limestone, v.
 sandy.
 61.2-66.4
SANDSTONE: silty,
 very calc., slightly
 friable, med. hard, gray.
 Contains abundant
 thin strands with shaly
 bedding. Partings are
 somewhat calc.
 62.4-66.5
LIMESTONE: sandy,
 shaly. Contains fossils.
 A mix. of
 62.5-66.6
LIMESTONE: argill-
 aceous, med. hard to
 near hard. Top 0.05'
 is rust-stained.
 62.6-64.4
SHALE: gray to dark gray,
 med. hard to soft, gray
 to dark gray.
 62.6-62.9 Contains
 thin fossiliferous bands.
 62.9-63.5 Apparently
 drilled up.
 63.5-63.7 soft,
 contains thin partings
 63.7-64.0 Very sandy
 mudstone, bordering
 at very argillaceous
 limestone.

T.D.C. 69.0'

ENTRIES ARE COMPLETE. PROJECT: Aquilla Dam. HOLE NO. 806C-34

Borehole Log		Location		Borehole		Date	
PROJECT: Aquilla Dam		LOCATION: Fort Worth		Borehole: 806C-35		Date: 17 July 1974	
1. LOCATION (Reference to Map)		2. SITE AND TYPE OF SITE		3. DATE OF BOREHOLE		4. BOREHOLE DEPTH	
5. NAME OF BOREHOLE		6. ELEVATION OF BOREHOLE		7. DATE OF BOREHOLE		8. BOREHOLE DEPTH	
9. NAME OF BOREHOLE		10. ELEVATION OF BOREHOLE		11. DATE OF BOREHOLE		12. BOREHOLE DEPTH	
13. NAME OF BOREHOLE		14. ELEVATION OF BOREHOLE		15. DATE OF BOREHOLE		16. BOREHOLE DEPTH	
17. NAME OF BOREHOLE		18. ELEVATION OF BOREHOLE		19. DATE OF BOREHOLE		20. BOREHOLE DEPTH	
21. NAME OF BOREHOLE		22. ELEVATION OF BOREHOLE		23. DATE OF BOREHOLE		24. BOREHOLE DEPTH	
25. NAME OF BOREHOLE		26. ELEVATION OF BOREHOLE		27. DATE OF BOREHOLE		28. BOREHOLE DEPTH	
29. NAME OF BOREHOLE		30. ELEVATION OF BOREHOLE		31. DATE OF BOREHOLE		32. BOREHOLE DEPTH	
33. NAME OF BOREHOLE		34. ELEVATION OF BOREHOLE		35. DATE OF BOREHOLE		36. BOREHOLE DEPTH	
37. NAME OF BOREHOLE		38. ELEVATION OF BOREHOLE		39. DATE OF BOREHOLE		40. BOREHOLE DEPTH	
41. NAME OF BOREHOLE		42. ELEVATION OF BOREHOLE		43. DATE OF BOREHOLE		44. BOREHOLE DEPTH	
45. NAME OF BOREHOLE		46. ELEVATION OF BOREHOLE		47. DATE OF BOREHOLE		48. BOREHOLE DEPTH	
49. NAME OF BOREHOLE		50. ELEVATION OF BOREHOLE		51. DATE OF BOREHOLE		52. BOREHOLE DEPTH	
53. NAME OF BOREHOLE		54. ELEVATION OF BOREHOLE		55. DATE OF BOREHOLE		56. BOREHOLE DEPTH	
57. NAME OF BOREHOLE		58. ELEVATION OF BOREHOLE		59. DATE OF BOREHOLE		60. BOREHOLE DEPTH	
61. NAME OF BOREHOLE		62. ELEVATION OF BOREHOLE		63. DATE OF BOREHOLE		64. BOREHOLE DEPTH	
65. NAME OF BOREHOLE		66. ELEVATION OF BOREHOLE		67. DATE OF BOREHOLE		68. BOREHOLE DEPTH	
69. NAME OF BOREHOLE		70. ELEVATION OF BOREHOLE		71. DATE OF BOREHOLE		72. BOREHOLE DEPTH	
73. NAME OF BOREHOLE		74. ELEVATION OF BOREHOLE		75. DATE OF BOREHOLE		76. BOREHOLE DEPTH	
77. NAME OF BOREHOLE		78. ELEVATION OF BOREHOLE		79. DATE OF BOREHOLE		80. BOREHOLE DEPTH	
81. NAME OF BOREHOLE		82. ELEVATION OF BOREHOLE		83. DATE OF BOREHOLE		84. BOREHOLE DEPTH	
85. NAME OF BOREHOLE		86. ELEVATION OF BOREHOLE		87. DATE OF BOREHOLE		88. BOREHOLE DEPTH	
89. NAME OF BOREHOLE		90. ELEVATION OF BOREHOLE		91. DATE OF BOREHOLE		92. BOREHOLE DEPTH	
93. NAME OF BOREHOLE		94. ELEVATION OF BOREHOLE		95. DATE OF BOREHOLE		96. BOREHOLE DEPTH	
97. NAME OF BOREHOLE		98. ELEVATION OF BOREHOLE		99. DATE OF BOREHOLE		100. BOREHOLE DEPTH	

RECORD DRAWING-WO

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SUBMITTED BY:	
ENGINEER:	

TO ACCOMPANY FINAL FOUNDATION

IN	HA	NO.	ACTION	DATE	DESCRIPTION OF REVISION
<p align="center"> U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS </p>					
DESIGNED BY:			<p align="center"> AQUILLA LAKE AQUILLA CREEK, TEXAS </p> <p align="center"> EMBANKMENT AND SPILLWAY </p> <p align="center"> LOGS OF BORINGS 8A6C-34 AND 35 </p>		
DRAWN BY:					
CHECKED BY:					
SUBMITTED BY:					
ENGINEER:			INV. NO. DACH463-00-15-0085		DATED: AUG. 1960
			CONTR. NO. DACH463-01-C-0033		REQUEST NO.
			DRAWING NUMBER		SHEET NO. B-16 OF
					121

PLATE 47

Made No. 0A60-36

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		Port North		Port North		SHEET 1	
LOCATION (Continuation of Section 8)		DATE AND TYPE OF BIT		DATE AND TYPE OF BIT		SHEET 2	
OUTLET TONKS		MSL		MSL		SHEET 3	
DRILLING AGENCY		Filling 1500		Filling 1500		SHEET 4	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 5	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 6	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 7	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 8	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 9	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 10	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 11	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 12	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 13	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 14	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 15	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 16	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 17	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 18	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 19	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 20	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 21	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 22	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 23	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 24	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 25	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 26	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 27	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 28	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 29	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 30	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 31	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 32	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 33	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 34	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 35	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 36	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 37	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 38	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 39	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 40	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 41	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 42	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 43	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 44	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 45	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 46	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 47	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 48	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 49	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 50	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 51	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 52	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 53	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 54	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 55	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 56	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 57	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 58	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 59	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 60	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 61	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 62	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 63	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 64	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 65	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 66	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 67	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 68	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 69	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 70	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 71	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 72	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 73	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 74	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 75	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 76	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 77	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 78	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 79	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 80	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 81	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 82	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 83	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 84	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 85	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 86	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 87	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 88	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 89	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 90	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 91	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 92	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 93	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 94	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 95	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 96	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 97	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 98	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 99	
NAME OF DRILLER		NAME OF DRILLER		NAME OF DRILLER		SHEET 100	
0.0'	to 11.0'	CLAY	1. Water level at 25.5' after completion.				
0.0'	to 1.8'	medium to high plasticity, moist, black, slightly sandy, calcareous.	2. Drilling: Augered to 33.0' (Rock core at 32.0'). Began coring at 33.0'.				
1.8'	to 4.0'	medium plasticity, moist, scattered calcareous nodules, tan, slightly sandy.	3. Jars:				
4.0'	to 6.3'	as above interval; no nodules.	A. 0.0' to 1.8'				
6.3'	to 11.0'	borderline clayey sand, moist, tan calcareous.	B. 1.8' to 4.0'				
11.0'	to 22.0'	SAND - medium to fine grained, medium dense, slightly moist, tan, clayey, calcareous.	C. 4.0' to 6.3'				
22.0'	to 23.0'	GRAVEL - 3/4" maximum, sub-rounded, poorly graded, medium dense, clayey, sandy, tan to red, some siltstone fragments, moist, calcareous.	D. 6.3' to 11.0'				
23.0'	to 30.5'	SAND - medium dense, medium to fine grained, tan, moist, clayey, gravelly from 28.0' to 30.5', calcareous.	E. 11.0' to 16.0'				
30.5'	to 31.5'	GRAVEL - 3/4" maximum, sub-rounded, poorly graded, tan, medium dense, sandy clayey, very moist, calcareous.	F. 16.0' to 20.0'				
31.5'	to 32.0'	SHALE - non-calcareous, weathered, soft, dark gray.	G. 20.0' to 22.0'				
32.0'	to 67.8'	SHALE - gray to dark gray, soft to medium hard, frequent laminar definition and occasional natural partings; occasional gradations into fine grained, gray, soft sandstones with no observed thickness in excess of 0.8'; frequent lenses of grayish-tan very fine grained, well cemented sandstones. When encountered, these lenses often broke and caused core loss due to grinding. Shale became very calcareous at 67.8'.	H. 22.0' to 23.0'				
67.8'	to 78.0'	LEWY SHALE / SHALE Limestones	I. 23.0' to 28.0'				
78.0'	to 80.0'	Core intermittently grades from shaly limestones to liny shale, section hard to hard, gray to grayish-tan, slightly to very calcareous.	J. 28.0' to 29.5'				
80.0'	to 81.0'	Top of Del Rio formation at 67.8' (picked from measured core recovery and electric logs).	K. 29.5' to 30.5'				
81.0'	to 82.0'		L. 30.5' to 31.5'				
82.0'	to 83.0'		M. 31.5' to 32.0'				
83.0'	to 84.0'						
84.0'	to 85.0'						
85.0'	to 86.0'						
86.0'	to 87.0'						
87.0'	to 88.0'						
88.0'	to 89.0'						
89.0'	to 90.0'						
90.0'	to 91.0'						
91.0'	to 92.0'						
92.0'	to 93.0'						
93.0'	to 94.0'						
94.0'	to 95.0'						
95.0'	to 96.0'						
96.0'	to 97.0'						
97.0'	to 98.0'						
98.0'	to 99.0'						
99.0'	to 100.0'						

DRILLING LOG		DIVISION		INSTALLATION		Male No. 8A-37	
PROJECT		Southwestern		Fort Worth		SHEET 1	
1. PROJECT		Aquila Dam Site		2. DATE AND TYPE OF TEST		23 July 1974	
3. LOCATION (Coordinates as shown on map)		Outlet Works Investigation		3. DATE AND TYPE OF TEST		23 July 1974	
4. DRILLING AGENCY		Corps of Engineers		4. DATE AND TYPE OF TEST		23 July 1974	
5. HOLE NO. (As shown on drawing)		8A-37		5. DATE AND TYPE OF TEST		23 July 1974	
6. NAME OF DRILLER		REMARKS		6. DATE AND TYPE OF TEST		23 July 1974	
7. DIRECTION OF HOLE		VERTICAL		7. DATE AND TYPE OF TEST		23 July 1974	
8. THICKNESS OF OVERBURDEN		23.5'		8. DATE AND TYPE OF TEST		23 July 1974	
9. DEPTH DRILLED INTO ROCK		1.5'		9. DATE AND TYPE OF TEST		23 July 1974	
10. TOTAL DEPTH OF HOLE		25.0'		10. DATE AND TYPE OF TEST		23 July 1974	
11. ELEVATION GROUND WATER		523.6'		11. DATE AND TYPE OF TEST		23 July 1974	
12. ELEVATION TOP OF HOLE		523.6'		12. DATE AND TYPE OF TEST		23 July 1974	
13. TOTAL CORE RECOVERY FOR BORING		523.6'		13. DATE AND TYPE OF TEST		23 July 1974	
14. SIGNATURE OF INSPECTOR		REMARKS		14. DATE AND TYPE OF TEST		23 July 1974	
15. SIGNATURE OF DRILLER		REMARKS		15. DATE AND TYPE OF TEST		23 July 1974	
16. SIGNATURE OF WITNESS		REMARKS		16. DATE AND TYPE OF TEST		23 July 1974	
17. SIGNATURE OF APPROVING OFFICER		REMARKS		17. DATE AND TYPE OF TEST		23 July 1974	
18. SIGNATURE OF APPROVING OFFICER		REMARKS		18. DATE AND TYPE OF TEST		23 July 1974	
19. SIGNATURE OF APPROVING OFFICER		REMARKS		19. DATE AND TYPE OF TEST		23 July 1974	
20. SIGNATURE OF APPROVING OFFICER		REMARKS		20. DATE AND TYPE OF TEST		23 July 1974	
21. SIGNATURE OF APPROVING OFFICER		REMARKS		21. DATE AND TYPE OF TEST		23 July 1974	
22. SIGNATURE OF APPROVING OFFICER		REMARKS		22. DATE AND TYPE OF TEST		23 July 1974	
23. SIGNATURE OF APPROVING OFFICER		REMARKS		23. DATE AND TYPE OF TEST		23 July 1974	
24. SIGNATURE OF APPROVING OFFICER		REMARKS		24. DATE AND TYPE OF TEST		23 July 1974	
25. SIGNATURE OF APPROVING OFFICER		REMARKS		25. DATE AND TYPE OF TEST		23 July 1974	
26. SIGNATURE OF APPROVING OFFICER		REMARKS		26. DATE AND TYPE OF TEST		23 July 1974	
27. SIGNATURE OF APPROVING OFFICER		REMARKS		27. DATE AND TYPE OF TEST		23 July 1974	
28. SIGNATURE OF APPROVING OFFICER		REMARKS		28. DATE AND TYPE OF TEST		23 July 1974	
29. SIGNATURE OF APPROVING OFFICER		REMARKS		29. DATE AND TYPE OF TEST		23 July 1974	
30. SIGNATURE OF APPROVING OFFICER		REMARKS		30. DATE AND TYPE OF TEST		23 July 1974	
31. SIGNATURE OF APPROVING OFFICER		REMARKS		31. DATE AND TYPE OF TEST		23 July 1974	
32. SIGNATURE OF APPROVING OFFICER		REMARKS		32. DATE AND TYPE OF TEST		23 July 1974	
33. SIGNATURE OF APPROVING OFFICER		REMARKS		33. DATE AND TYPE OF TEST		23 July 1974	
34. SIGNATURE OF APPROVING OFFICER		REMARKS		34. DATE AND TYPE OF TEST		23 July 1974	
35. SIGNATURE OF APPROVING OFFICER		REMARKS		35. DATE AND TYPE OF TEST		23 July 1974	
36. SIGNATURE OF APPROVING OFFICER		REMARKS		36. DATE AND TYPE OF TEST		23 July 1974	
37. SIGNATURE OF APPROVING OFFICER		REMARKS		37. DATE AND TYPE OF TEST		23 July 1974	
38. SIGNATURE OF APPROVING OFFICER		REMARKS		38. DATE AND TYPE OF TEST		23 July 1974	
39. SIGNATURE OF APPROVING OFFICER		REMARKS		39. DATE AND TYPE OF TEST		23 July 1974	
40. SIGNATURE OF APPROVING OFFICER		REMARKS		40. DATE AND TYPE OF TEST		23 July 1974	
41. SIGNATURE OF APPROVING OFFICER		REMARKS		41. DATE AND TYPE OF TEST		23 July 1974	
42. SIGNATURE OF APPROVING OFFICER		REMARKS		42. DATE AND TYPE OF TEST		23 July 1974	
43. SIGNATURE OF APPROVING OFFICER		REMARKS		43. DATE AND TYPE OF TEST		23 July 1974	
44. SIGNATURE OF APPROVING OFFICER		REMARKS		44. DATE AND TYPE OF TEST		23 July 1974	
45. SIGNATURE OF APPROVING OFFICER		REMARKS		45. DATE AND TYPE OF TEST		23 July 1974	
46. SIGNATURE OF APPROVING OFFICER		REMARKS		46. DATE AND TYPE OF TEST		23 July 1974	
47. SIGNATURE OF APPROVING OFFICER		REMARKS		47. DATE AND TYPE OF TEST		23 July 1974	
48. SIGNATURE OF APPROVING OFFICER		REMARKS		48. DATE AND TYPE OF TEST		23 July 1974	
49. SIGNATURE OF APPROVING OFFICER		REMARKS		49. DATE AND TYPE OF TEST		23 July 1974	
50. SIGNATURE OF APPROVING OFFICER		REMARKS		50. DATE AND TYPE OF TEST		23 July 1974	
51. SIGNATURE OF APPROVING OFFICER		REMARKS		51. DATE AND TYPE OF TEST		23 July 1974	
52. SIGNATURE OF APPROVING OFFICER		REMARKS		52. DATE AND TYPE OF TEST		23 July 1974	
53. SIGNATURE OF APPROVING OFFICER		REMARKS		53. DATE AND TYPE OF TEST		23 July 1974	
54. SIGNATURE OF APPROVING OFFICER		REMARKS		54. DATE AND TYPE OF TEST		23 July 1974	
55. SIGNATURE OF APPROVING OFFICER		REMARKS		55. DATE AND TYPE OF TEST		23 July 1974	
56. SIGNATURE OF APPROVING OFFICER		REMARKS		56. DATE AND TYPE OF TEST		23 July 1974	
57. SIGNATURE OF APPROVING OFFICER		REMARKS		57. DATE AND TYPE OF TEST		23 July 1974	
58. SIGNATURE OF APPROVING OFFICER		REMARKS		58. DATE AND TYPE OF TEST		23 July 1974	
59. SIGNATURE OF APPROVING OFFICER		REMARKS		59. DATE AND TYPE OF TEST		23 July 1974	
60. SIGNATURE OF APPROVING OFFICER		REMARKS		60. DATE AND TYPE OF TEST		23 July 1974	
61. SIGNATURE OF APPROVING OFFICER		REMARKS		61. DATE AND TYPE OF TEST		23 July 1974	
62. SIGNATURE OF APPROVING OFFICER		REMARKS		62. DATE AND TYPE OF TEST		23 July 1974	
63. SIGNATURE OF APPROVING OFFICER		REMARKS		63. DATE AND TYPE OF TEST		23 July 1974	
64. SIGNATURE OF APPROVING OFFICER		REMARKS		64. DATE AND TYPE OF TEST		23 July 1974	
65. SIGNATURE OF APPROVING OFFICER		REMARKS		65. DATE AND TYPE OF TEST		23 July 1974	
66. SIGNATURE OF APPROVING OFFICER		REMARKS		66. DATE AND TYPE OF TEST		23 July 1974	
67. SIGNATURE OF APPROVING OFFICER		REMARKS		67. DATE AND TYPE OF TEST		23 July 1974	
68. SIGNATURE OF APPROVING OFFICER		REMARKS		68. DATE AND TYPE OF TEST		23 July 1974	
69. SIGNATURE OF APPROVING OFFICER		REMARKS		69. DATE AND TYPE OF TEST		23 July 1974	
70. SIGNATURE OF APPROVING OFFICER		REMARKS		70. DATE AND TYPE OF TEST		23 July 1974	
71. SIGNATURE OF APPROVING OFFICER		REMARKS		71. DATE AND TYPE OF TEST		23 July 1974	
72. SIGNATURE OF APPROVING OFFICER		REMARKS		72. DATE AND TYPE OF TEST		23 July 1974	
73. SIGNATURE OF APPROVING OFFICER		REMARKS		73. DATE AND TYPE OF TEST		23 July 1974	
74. SIGNATURE OF APPROVING OFFICER		REMARKS		74. DATE AND TYPE OF TEST		23 July 1974	
75. SIGNATURE OF APPROVING OFFICER		REMARKS		75. DATE AND TYPE OF TEST		23 July 1974	
76. SIGNATURE OF APPROVING OFFICER		REMARKS		76. DATE AND TYPE OF TEST		23 July 1974	
77. SIGNATURE OF APPROVING OFFICER		REMARKS		77. DATE AND TYPE OF TEST		23 July 1974	
78. SIGNATURE OF APPROVING OFFICER		REMARKS		78. DATE AND TYPE OF TEST		23 July 1974	
79. SIGNATURE OF APPROVING OFFICER		REMARKS		79. DATE AND TYPE OF TEST		23 July 1974	
80. SIGNATURE OF APPROVING OFFICER		REMARKS		80. DATE AND TYPE OF TEST		23 July 1974	
81. SIGNATURE OF APPROVING OFFICER		REMARKS		81. DATE AND TYPE OF TEST		23 July 1974	
82. SIGNATURE OF APPROVING OFFICER		REMARKS		82. DATE AND TYPE OF TEST		23 July 1974	
83. SIGNATURE OF APPROVING OFFICER		REMARKS		83. DATE AND TYPE OF TEST		23 July 1974	
84. SIGNATURE OF APPROVING OFFICER		REMARKS		84. DATE AND TYPE OF TEST		23 July 1974	
85. SIGNATURE OF APPROVING OFFICER		REMARKS		85. DATE AND TYPE OF TEST		23 July 1974	
86. SIGNATURE OF APPROVING OFFICER		REMARKS		86. DATE AND TYPE OF TEST		23 July 1974	
87. SIGNATURE OF APPROVING OFFICER		REMARKS		87. DATE AND TYPE OF TEST		23 July 1974	
88. SIGNATURE OF APPROVING OFFICER		REMARKS		88. DATE AND TYPE OF TEST		23 July 1974	
89. SIGNATURE OF APPROVING OFFICER		REMARKS		89. DATE AND TYPE OF TEST		23 July 1974	
90. SIGNATURE OF APPROVING OFFICER		REMARKS		90. DATE AND TYPE OF TEST		23 July 1974	
91. SIGNATURE OF APPROVING OFFICER		REMARKS		91. DATE AND TYPE OF TEST		23 July 1974	
92. SIGNATURE OF APPROVING OFFICER		REMARKS		92. DATE AND TYPE OF TEST		23 July 1974	
93. SIGNATURE OF APPROVING OFFICER		REMARKS		93. DATE AND TYPE OF TEST		23 July 1974	
94. SIGNATURE OF APPROVING OFFICER		REMARKS		94. DATE AND TYPE OF TEST		23 July 1974	
95. SIGNATURE OF APPROVING OFFICER		REMARKS		95. DATE AND TYPE OF TEST		23 July 1974	
96. SIGNATURE OF APPROVING OFFICER		REMARKS		96. DATE AND TYPE OF TEST		23 July 1974	
97. SIGNATURE OF APPROVING OFFICER		REMARKS		97. DATE AND TYPE OF TEST		23 July 1974	
98. SIGNATURE OF APPROVING OFFICER		REMARKS		98. DATE AND TYPE OF TEST		23 July 1974	
99. SIGNATURE OF APPROVING OFFICER		REMARKS		99. DATE AND TYPE OF TEST		23 July 1974	
100. SIGNATURE OF APPROVING OFFICER		REMARKS		100. DATE AND TYPE OF TEST		23 July 1974	

ENG FORM 1836
MAY 71
PREVIOUS EDITIONS ARE OBSOLETE.
(TRANSMITTAL)

PROJECT
Aquila Dam Site
HOLE NO.
8A-37

RECORD DRAWING-WORK AS BUILT

SUM. NO.	NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS				
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS			
DRAWN BY:	EMBANKMENT AND SPILLWAY			
CHECKED BY:	LOGS OF BORINGS 8A6C-36 AND 8A-37			
SUBMITTED BY:	INV. NO. DACW63-80-B-0085 DATED: AUG. 1980			
ENGINEER:	CONTR. NO. DACW63-81-C-0035 SEQUENCE NO.			
	DRAWING NUMBER SHEET NO. 122			

DRILLING LOG		Division		Project		Date No. 8-60-38A	
1. SUBJECT		2. LOCATION		3. DISTRICT		4. SHEETS	
Arilla		Southwestern		Fort Worth District		of 3 sheets	
5. COPIES OF LOGS TO BE MADE		6. SIZE AND TYPE OF BIT		7. DEPTH FOR ELEVATION MEASUREMENT		8. TESTS	
10		6" core; 3" fishball		10' from 1500		1	
9. DRILLING AGENCY		10. MANUFACTURER'S DESIGNATION OF DRILL		11. TOTAL NO. OF CORE SAMPLES TAKEN		12. UNDISTURBED	
Camp of Engineers		Selling 1500		1		0	
13. NAME OF DRILLER		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER		16. REMARKS	
BAGC-38A		12		a		1	
17. DEPTH OF HOLE		18. DATE HOLE		19. STARTED		20. COMPLETED	
30' (VERTICAL) (INCLINED)		22 APR 75		22 APR 75		24 APR 75	
21. CHANGES OF OVERBURDEN		22. ELEVATION TOP OF HOLE		23. TOTAL CORE RECOVERY FOR BOXES		24. SIGNATURE OF INSPECTOR	
2.0'		5729.6		30'		J. H. Smith	
25. DEPTH DRILLED INTO ROCK		26. TOTAL DEPTH OF HOLE		27. CLARIFICATION OF MATERIALS		28. REMARKS	
60.0'		71.0'		a		b	
ELEVATION		DEPTH		LEGEND		REMARKS	
a		b		c		d	
0.0' to 2.0'		Gravel - -		B		Drilling	
2.0' to 35.5'		100% to medium dense, dark brown, moist, very clayey and sandy		C		0.0' to 6.0' 8" auger	
35.5' to 48.4'		SHALE - -		D		6.0' to 60.1' 6" core	
48.4' to 55.1'		2.0' to 12.7' light gray, weathered, with occasional iron-stained, tight fractures		E		0.0' to 71.0' 3" fishball	
55.1' to 60.1'		5.0' to 6.0' SANDSTONE, tan, poorly cemented		F		Jar samples	
60.1' to 68.4'		8.4' clay-ironstone, red		G		A. 0.0' to 2.0'	
68.4' to 71.0'		10.5' to 10.4' clay-ironstone, yellow		H		B. 2.0' to 5.0'	
		10.4' to 11.1' tight, high angle fracture		I		C. 5.0' to 6.0'	
		11.7' to 11.8' clay-ironstone concretion		J		Carbon samples	
		12.5' to 19.8' predominantly gray, slightly weathered		K		1. 43.8' to 44.8'	
		13.7' to 14.1' several red, clay-ironstone lenses, with scattered grains of gypsum		L		2. 51.6' to 52.5'	
		16.3' to 16.4'; 16.8' to 16.9'; 17.2' to 17.4' SANDSTONE, moderately cemented, silty		M		3. 58.7' to 59.6'	
		19.8' to 35.5' dark gray, unweathered, with some light gray sandstone lenses, unfactured		N		Boxed samples	
		20.8' to 21.0'; 28.6' to 28.7'; 34.5' to 35.0' SANDSTONE, light gray, poorly cemented		O		Core from 6.2' to 35.4' (boxes 1 to 7) was continuously wrapped.	
		22.2' to 23.0'; 25.9' to 26.7' with some lenses of poorly cemented SANDSTONE		P		Water level	
		23.0' to 23.4' Limestone, gray, very hard, sandy		Q		Hole was left open after completion of drilling; check, 29 Apr.	
		26.9' to 27.1' SANDSTONE, moderately cemented		R		Off-log	
		35.5' to 38.9'		S		BAGC-38 was off-log accidentally 320' SE of proper location. 38-39 was drilled 8.0' W of BAGC-38 at same elevation.	
		SHALE-SANDSTONE - -		T		Note	
		shale, dark gray and sandy with numerous soft sandstone lenses, grading downward to sandstone, light gray and slightly lignitic, with numerous shale partings		U		38-39 was drilled for purposes of geophysical logging. Log was based on drill action and cuttings below 60.0'. Sandstone is exposed in trough bed 2.4' below elevation of core hole.	
		38.9' to 48.4'		V		Note	
		SANDSTONE - -		W		2.0' to 19.8' weathered 19.8' to 2.0' D. unweathered	
		38.9' to 39.3' poorly cemented, argillaceous and silty		X		0.0' to 59.1' non calcareous, except for well cemented sandstone and limestone lenses, and 48.4' to 55.1' which is slightly calcareous along bedding	
		39.3' to 39.5' light gray well cemented, calcareous, with several shale partings could not cut with a carbide		Y		55.1' to 71.0' calcareous	
		39.5' to 39.6' SHALE		Z			
		39.6' to 41.1' moderately cemented, brownish-gray, with some shale partings at top		AA			
		41.1' to 41.8' SHALE, gray, sandy, with elongate lenses of sandstone and a limestone lens		AB			
		41.8' to 42.5' Limestone, light gray, sandy, well cemented, could not cut with carbide; with some shale partings and lignite		AC			
		42.5' to 42.7' SHALE, sandy		AD			
		42.7' to 43.8' moderately cemented, grayish-brown		AE			
		43.8' to 44.8' SHALE, dark gray, waxy		AF			
		44.8' to 48.2' poorly cemented, with thin beds of lignite		AG			
		48.2' to 45.7' non-cemented, with thin beds of shale		AH			
		45.7' to 46.7' well cemented, calcareous		AI			
		46.7' to 48.4' moderately cemented		AJ			

48.4' to 71.0'					
SHALE - -					
48.4' to 55.1' dark gray, waxy, non-calcareous, grading downward to calcareous along bedding planes					
50.1' to 50.5' SANDSTONE, moderately cemented, light gray					
55.1' to 71.0' greenish-gray, calcareous, fissile, with clay streaks					
T. B. @ 71.0' in shale					

State No. 8460-39

DRILLING LOG		Location		INSTALLATION		SHEET 1 OF 3 SHEETS	
PROJECT Amelia		Southeastern		Fort North District		6. 00001. 0' Shallow	
LOCATION CO				TO: BUREAU FOR TELETYPE REPORT			
SAILING AGENCY Office of Engineers				TO: BUREAU FOR TELETYPE REPORT			
NAME OF DRILLER Brown				TO: BUREAU FOR TELETYPE REPORT			
ELEVATION OF HOLE VERTICAL				TO: BUREAU FOR TELETYPE REPORT			
THICKNESS OF OVERBURDEN 10.5'				TO: BUREAU FOR TELETYPE REPORT			
DEPTH DRILLED INTO ROCK 20.5'				TO: BUREAU FOR TELETYPE REPORT			
TOTAL DEPTH OF HOLE 31.0'				TO: BUREAU FOR TELETYPE REPORT			
ELEVATION		DEPTH		LOG		REMARKS	
0.0' to 3.5'		CLAY - -		0.0' to 10.5' 8" auger		shale and sandstone	
3.5' to 5.5'		CLAY - -		10.5' to 47.0' 6" core		37.7' to 38.1'; 38.4' to 38.7'	
5.5' to 10.5'		CLAY - -		0.0' to 61.0' 3" fish-tail		SHALE - -	
10.5' to 14.5'		CLAY - -				38.9' to 61.0'	
14.5' to 15.3'		CLAY - -				SHALE - -	
15.3' to 16.8'		CLAY - -				38.9' to 40.4' dark gray, soft, waxy, non-calcareous, with occasional whips of lime	
16.8' to 20.5'		CLAY - -				40.4' to 61.0' greenish-gray, calcareous, with limy pockets, moderately hard	
20.5' to 21.5'		CLAY - -				45.9' to 46.4' slightly less calcareous	
21.5' to 21.7'		CLAY - -					
21.7' to 22.0'		CLAY - -					
22.0' to 38.9'		CLAY - -					
38.9' to 40.4'		CLAY - -					
40.4' to 61.0'		CLAY - -					
61.0' to 61.0'		CLAY - -					

shale and sandstone
37.7' to 38.1'; 38.4' to 38.7'
SHALE - -
38.9' to 61.0'
SHALE - -
38.9' to 40.4' dark gray, soft, waxy, non-calcareous, with occasional whips of lime
40.4' to 61.0' greenish-gray, calcareous, with limy pockets, moderately hard
45.9' to 46.4' slightly less calcareous

RECORD DRAWING-WOF

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SUBMITTED BY:	
ENGINEER:	

DRILLING LOG		REVISION		INSTALLATION		SHEET	
PROJECT		Southwestern		Fort Worth District		1 of 5 SHEETS	
LOCATION		Aquilla Lake		1. HOLE AND TYPE OF BT		2. DATE OF ELEVATION MEASUREMENT	
TO		SAILING AREA		3. HOLE OR GROUND ELEVATION OF BUILT		4. DATE OF ELEVATION MEASUREMENT	
NAME OF BUSINESS		8460-39		5. TOTAL NO. OF BT'S		6. DISTURBED	
NAME OF DRILLER		8460-39		7. TOTAL NUMBER CORRECTIONS		8. UNDISTURBED	
NAME OF DRILLER		8460-39		9. ELEVATION GROUND WATER		10. DATE	
NAME OF DRILLER		8460-39		11. DATE		12. DATE	
NAME OF DRILLER		8460-39		13. ELEVATION TOP OF HOLE		14. DATE	
NAME OF DRILLER		8460-39		15. TOTAL CORRECTION FOR BORING		16. DATE	
NAME OF DRILLER		8460-39		17. ELEVATION TOP OF HOLE		18. DATE	
NAME OF DRILLER		8460-39		19. TOTAL CORRECTION FOR BORING		20. DATE	
NAME OF DRILLER		8460-39		21. ELEVATION TOP OF HOLE		22. DATE	
NAME OF DRILLER		8460-39		23. TOTAL CORRECTION FOR BORING		24. DATE	
NAME OF DRILLER		8460-39		25. ELEVATION TOP OF HOLE		26. DATE	
NAME OF DRILLER		8460-39		27. TOTAL CORRECTION FOR BORING		28. DATE	
NAME OF DRILLER		8460-39		29. ELEVATION TOP OF HOLE		30. DATE	
NAME OF DRILLER		8460-39		31. TOTAL CORRECTION FOR BORING		32. DATE	
NAME OF DRILLER		8460-39		33. ELEVATION TOP OF HOLE		34. DATE	
NAME OF DRILLER		8460-39		35. TOTAL CORRECTION FOR BORING		36. DATE	
NAME OF DRILLER		8460-39		37. ELEVATION TOP OF HOLE		38. DATE	
NAME OF DRILLER		8460-39		39. TOTAL CORRECTION FOR BORING		40. DATE	
NAME OF DRILLER		8460-39		41. ELEVATION TOP OF HOLE		42. DATE	
NAME OF DRILLER		8460-39		43. TOTAL CORRECTION FOR BORING		44. DATE	
NAME OF DRILLER		8460-39		45. ELEVATION TOP OF HOLE		46. DATE	
NAME OF DRILLER		8460-39		47. TOTAL CORRECTION FOR BORING		48. DATE	
NAME OF DRILLER		8460-39		49. ELEVATION TOP OF HOLE		50. DATE	
NAME OF DRILLER		8460-39		51. TOTAL CORRECTION FOR BORING		52. DATE	
NAME OF DRILLER		8460-39		53. ELEVATION TOP OF HOLE		54. DATE	
NAME OF DRILLER		8460-39		55. TOTAL CORRECTION FOR BORING		56. DATE	
NAME OF DRILLER		8460-39		57. ELEVATION TOP OF HOLE		58. DATE	
NAME OF DRILLER		8460-39		59. TOTAL CORRECTION FOR BORING		60. DATE	
NAME OF DRILLER		8460-39		61. ELEVATION TOP OF HOLE		62. DATE	
NAME OF DRILLER		8460-39		63. TOTAL CORRECTION FOR BORING		64. DATE	
NAME OF DRILLER		8460-39		65. ELEVATION TOP OF HOLE		66. DATE	
NAME OF DRILLER		8460-39		67. TOTAL CORRECTION FOR BORING		68. DATE	
NAME OF DRILLER		8460-39		69. ELEVATION TOP OF HOLE		70. DATE	
NAME OF DRILLER		8460-39		71. TOTAL CORRECTION FOR BORING		72. DATE	
NAME OF DRILLER		8460-39		73. ELEVATION TOP OF HOLE		74. DATE	
NAME OF DRILLER		8460-39		75. TOTAL CORRECTION FOR BORING		76. DATE	
NAME OF DRILLER		8460-39		77. ELEVATION TOP OF HOLE		78. DATE	
NAME OF DRILLER		8460-39		79. TOTAL CORRECTION FOR BORING		80. DATE	
NAME OF DRILLER		8460-39		81. ELEVATION TOP OF HOLE		82. DATE	
NAME OF DRILLER		8460-39		83. TOTAL CORRECTION FOR BORING		84. DATE	
NAME OF DRILLER		8460-39		85. ELEVATION TOP OF HOLE		86. DATE	
NAME OF DRILLER		8460-39		87. TOTAL CORRECTION FOR BORING		88. DATE	
NAME OF DRILLER		8460-39		89. ELEVATION TOP OF HOLE		90. DATE	
NAME OF DRILLER		8460-39		91. TOTAL CORRECTION FOR BORING		92. DATE	
NAME OF DRILLER		8460-39		93. ELEVATION TOP OF HOLE		94. DATE	
NAME OF DRILLER		8460-39		95. TOTAL CORRECTION FOR BORING		96. DATE	
NAME OF DRILLER		8460-39		97. ELEVATION TOP OF HOLE		98. DATE	
NAME OF DRILLER		8460-39		99. TOTAL CORRECTION FOR BORING		100. DATE	

shale and sandstone 37.7' to 38.1'; 38.4' to 38.7'	
SHALE	
38.9' to 61.0'	
SHALE	
38.9' to 40.4' dark gray soft, waxy, non-calcareous, with occasional wisps of lime	
40.4' to 61.0' greenish-gray, calcareous, with limy pockets, moderately hard	
45.9' to 46.4' slightly less calcareous	

RECORD DRAWING-WORK AS BUILT

DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8460-38A AND 39		
SUBMITTED BY:	INV. NO. DACH63-80-B-0085	DATED: AUG 1980	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACH63-81-C-0035	DRAWING NUMBER	SHEET NO. 123

beds of lignite on bedding planes,
but sandstone appears massive

53.3' to 54.6' moderately to
well cemented, lignite at
top to non-lignite at base

54.6' to 59.4' with very num-
erous lenses of thinly bedded
shale and sandstone

59.4' to 56.3' predominantly
sandstone

59.4' to 61.8' moderately ce-
mented, with interbedded lignite
seems at 59.2' to 59.3'; 59.8'
to 59.9'; 60.3' to 60.4';
lignite tends to be concen-
trated along bedding

61.8' to 63.2' moderately to
well cemented

63.2' to 63.9'

SHALE - -

dark gray, with occasional beds
of sandstone

63.9' to 64.5'

SANDSTONE - -

63.9' to 64.2' poorly cemented
with shale partings

64.2' to 64.5' well cemented,
brownish-gray

64.5' to 65.3'

LIMESTONE - -

light gray, well cemented,
crystalline, sandy

65.3' to 69.3'

SHALE - -

greenish-gray, fissile,
calcareous, with limy streaks

T. R. @ 69.3' in shale

calcareous
25.3' to 25.4' SANDSTONE,
moderately hard, slightly
calcareous

25.4' to 30.1' with numerous
pockets, lenses, and thin
beds of sandstone

27.4' to 27.8'; 28.4' to
28.6'; 29.0' to 29.5'
sandstone lenses, light gray

30.1' to 43.4' sandy

33.2' to 33.3' SANDSTONE,
light gray, poorly cemented,
thinly interbedded with
shale

34.0' to 34.2' SANDSTONE,
light gray, well cemented,
calcareous

41.8' to 42.1' SANDSTONE,
poorly cemented

42.2' to 42.4' sandstone lenses

43.4' to 44.0' sandy

44.0' to 53.4'
SANDSTONE --

44.0' to 45.7' brown and light
brown, moderately cemented,
calcareous to non-calcareous,
very fossiliferous, with num-
erous oyster shells

45.7' to 47.8' moderately
cemented, decreasing downward
to poorly cemented at 47.3',
fossiliferous, mostly non-
calcareous, with occasional
shale partings

47.8' to 48.5' shale, light
gray, interbedded with poorly
cemented sandstone

48.5' to 49.3' same as 44.0'
to 45.7' with some lignite

49.3' to 50.2' gray, poorly to
moderately cemented, locally

non-calcareous, slightly fossiliferous,
slightly lignitic

50.2' to 51.8' light gray,
well cemented, calcareous,
with very numerous partings
of shale which increase downward,
slightly fossiliferous, ap-
proaches sandy limestone

51.8' to 53.4' grayish-brown,
moderately to well cemented,
with numerous partings of
shale, mostly non-calcareous, pyritiferous at base

53.4' to 53.7'

LIMESTONE --

gray, well cemented, sandy,
with several solution cavities
and partings of shale

53.7' to 62.6'

SHALE --

greenish-gray, calcareous,
with shales of lime, moderately
hard

54.1' to 54.3' lenses of
lignitic sandstone

RECORD DRAWING-WORK AS BUILT

REVISION NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-40 AND 41		
SUBMITTED BY:	INV. NO. DACW63-80-B-0086	DATED: AUG. 1980	
ENGINEER:	CONTR. NO. DACW63-81-C-0035	SEQUENCE NO.	124
	DRAWING NUMBER	SHEET NO.	124
		OF	

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
Southwestern		Ark. North District		OF 2 SHEETS		1	
PROJECT		16. SIZE AND TYPE OF BIT (6" x 9" 1/2" and core)		17. DAYTON FOR ELEVATION (SHOW TIME - MIN)			
15. LOCATION (Continued on Sheet 2)		12. MANUFACTURER'S DESIGNATION OF DRILL		13. FALLING 1500			
1. DRILLING AGENCY		14. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		15. TOTAL NUMBER CORE BOXES		5	
2. NAME OF DRILLER		16. ELEVATION GROUND WATER		17. DATE HOLE		4 June 75	
3. DIRECTION OF HOLE		18. ELEVATION TOP OF HOLE		19. TOTAL CORE RECOVERY FOR BOXES		503.8'	
4. THICKNESS OF OVERBURDEN		20. DATE HOLE		21. SIGNATURE OF INSPECTOR		James H. Shultz	
5. DEPTH DRILLED INTO ROCK		22. SIGNATURE OF INSPECTOR		23. SIGNATURE OF INSPECTOR		James H. Shultz	
6. TOTAL DEPTH OF HOLE		24. SIGNATURE OF INSPECTOR		25. SIGNATURE OF INSPECTOR		James H. Shultz	
ELEVATION		DEPTH		CLARIFICATION OF MATERIALS		REMARKS	
0.0' to 30.0'		CLAY - -		0.0' to 20.0' 8" sugar		Drilling	
0.0' to 10.0' low plasticity, brown to dark brown, very stiff, moist, sandy, except slightly sandy, 2.0' to 5.0'		10.0' to 12.0' becomes light brown, slightly sandy, with limy streaks		12.0' to 16.0' low plasticity, light brown, stiff, very moist, very sandy		16.0' to 21.0' becomes very moist to saturated	
21.0' to 29.0' low plasticity, tan with some gray, sandy to very sandy, with zones of sand at 26.0'		29.0' to 30.0' becomes predominantly gray, very moist		30.0' to 32.0'		GRAVEL - -	
32.0' to 32.2'		LIMESTONE - -		32.2' to 39.5'		SHALE - -	
32.2' to 34.0' dark gray, unweathered, non-calcareous, with numerous lenses and thin beds of calcareous and non-calcareous sandstone. Some core loss in this zone, due to grinding by gravel.		34.0' to 39.5' greenish-gray, moderately hard, calcareous, with limy whips		T. D. @ 39.5'			

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
Southwestern		Ark. North District		OF 2 SHEETS		2	
PROJECT		16. SIZE AND TYPE OF BIT (6" x 9" 1/2" and core)		17. DAYTON FOR ELEVATION (SHOW TIME - MIN)			
15. LOCATION (Continued on Sheet 1)		12. MANUFACTURER'S DESIGNATION OF DRILL		13. FALLING 1500			
1. DRILLING AGENCY		14. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN		15. TOTAL NUMBER CORE BOXES		12	
2. NAME OF DRILLER		16. ELEVATION GROUND WATER		17. DATE HOLE		3 June 75	
3. DIRECTION OF HOLE		18. ELEVATION TOP OF HOLE		19. TOTAL CORE RECOVERY FOR BOXES		503.4	
4. THICKNESS OF OVERBURDEN		20. DATE HOLE		21. SIGNATURE OF INSPECTOR		James H. Shultz	
5. DEPTH DRILLED INTO ROCK		22. SIGNATURE OF INSPECTOR		23. SIGNATURE OF INSPECTOR		James H. Shultz	
6. TOTAL DEPTH OF HOLE		24. SIGNATURE OF INSPECTOR		25. SIGNATURE OF INSPECTOR		James H. Shultz	
ELEVATION		DEPTH		CLARIFICATION OF MATERIALS		REMARKS	
0.0' to 22.5'		CLAY - -		0.0' to 2.0' 8" sugar		Drilling	
0.0' to 0.8' low plasticity, brown, stiff, moist, sandy		0.8' to 3.0' becomes light brown, very sandy		3.0' to 5.0' low plasticity, brown, very stiff, moist, sandy		5.0' to 22.0' low plasticity, light brown, very stiff, moist, very sandy	
15.0' to 15.0' with small, irregular, lime nodules		17.0' becomes very moist		19.0' becomes slightly gravelly		21.0' approaches clayey sand	
22.5' to 24.0'		SAND - -		24.0' to 29.9'		GRAVEL - -	
24.0' to 26.0' light brown, medium dense, poorly graded, saturated, clayey, well rounded, averages 1/2" with cobbles to 2"		26.0' to 28.0' becomes very clayey		28.0' to 29.9' with numerous rounded to elongate cobbles, maximum diameter 6"; everyting was washed away but the cobbles			
29.9' to 30.0'		LIMESTONE - -		30.0' to 34.2'		SHALE - -	
30.0' to 34.2'		SHALE - -		34.2' to 35.1'		LIMESTONE - -	
35.1' to 38.8'		SHALE - -		38.8' to 39.5'		LIMESTONE - -	
39.5' to 40.0'		SHALE - -		40.0' to 40.5'		LIMESTONE - -	

Male No. 8160-44

Southwestern District

Project: Aquilla

Location: (Coordinates or Name)

Drilling Agency: Corps of Engineers

Roll No. (If different from drawing title and title number): 8160-44

Name of Driller: (Name)

Direction of Hole: (C) Vertical (I) Inclined

Thickness of Overburden: 36.3'

Depth Drilled into Rock: 73.7'

Total Depth of Hole: 110.0'

Classification of Materials (Descriptive)

0.0' to 22.5'

CLAY --

0.0' to 0.8' low plasticity, brown, stiff, moist, sandy

0.8' to 3.0' becomes light brown, very sandy

3.0' to 5.0' low plasticity, brown, very stiff, moist, sandy

5.0' to 22.0' low plasticity, light brown, very stiff, moist, very sandy

15.0' to 15.0' with small, irregular, lime nodules

17.0' becomes very moist

19.0' becomes slightly gravelly

21.0' approaches clayey sand

22.5' to 24.0'

SAND --

light brown, medium dense, very moist, very clayey

24.0' to 29.9'

GRAVEL --

24.0' to 26.0' light brown, medium dense, poorly graded, saturated, clayey, well rounded, averages 1", with cobbles to 2"

26.0' to 28.0' becomes very clayey

28.0' to 29.9' with numerous rounded to elongate cobbles, maximum diameter 6"; everything was washed away but the cobbles

29.9' to 30.0'

LIMESTONE --

light gray, well cemented, sandy, slightly stained

30.0' to 34.2'

SHALE --

dark gray, unweathered, non-fractured, non-calcareous, with numerous lenses, pebbles, and thin beds of calcareous and non-calcareous sandstone

32.7' to 33.0' SANDSTONE, brownish-gray, moderately cemented, slightly calcareous

34.2' to 35.1'

LIMESTONE --

light gray well cemented, sandy, with irregular, elongate lenses of light brown non-calcareous clay-dolomite, and occasional shale partings

35.1' to 36.8'

SHALE --

greenish-gray, moderately hard, calcareous, with whips of lime

36.8' to 38.8' moderately cemented, very light gray, with 0.05" at 30' of softer, greenish-gray shale

T. D. 0.38.8' in shale

Male No. 8160-44

Southwestern District

Project: Aquilla

Location: (Coordinates or Name)

Drilling Agency: Corps of Engineers

Roll No. (If different from drawing title and title number): 8160-44

Name of Driller: (Name)

Direction of Hole: (C) Vertical (I) Inclined

Thickness of Overburden: 36.3'

Depth Drilled into Rock: 73.7'

Total Depth of Hole: 110.0'

Classification of Materials (Descriptive)

0.0' to 15.0'

CLAY --

0.0' to 3.5' low plasticity, brownish-gray, stiff, moist, sandy

3.5' to 5.5' becomes hard

5.5' to 8.0' low plasticity, brown, very stiff, moist, sandy, with small lime nodules

8.0' to 15.0' becomes tan, very sandy

15.0' to 23.5'

SAND --

15.0' to 19.0' tan, medium dense, moist, slightly clayey

19.0' to 20.5' loose to medium dense, tan, very fine, silty

20.5' to 23.5' brown, well graded, slightly clayey, gravelly to 3/4"

23.5' to 25.0'

CLAY --

low plasticity, tan, stiff, moist, very sandy

25.0' to 34.0'

SAND --

25.0' to 27.0' brown, well graded, slightly clayey, gravelly to 3/4"

27.0' to 34.0' tan, medium dense, clayey, with zones of gray, sandy clay; very moist to 32.0', saturated 32.0' to 34.0'

34.0' to 36.0'

CLAY --

low plasticity, light gray

36.0' to 36.3'

GRAVEL --

tan, medium dense, sandy and clayey, with cobbles to 2"

36.3' to 101.0'

SHALE --

36.3' to 45.0' with numerous lenses and beds of sandstone as follows

36.3' to 36.4' slightly weathered, gray with some red and tan

36.4' to 37.5' no recovery

37.5' to 37.6' SANDSTONE, light gray, well cemented, calcareous, could not be recovered with a maul

37.6' to 38.4' no recovery

38.4' to 38.6' SANDSTONE, as 37.5' to 37.6'

38.6' to 38.8' with numerous, elongate lenses of calcareous sandstone and several small pyrite nodules

38.8' to 39.1' waxy, dark gray

39.1' to 39.4' with several lenses of moderately cemented, non-calcareous sandstone, light gray

39.4' to 41.6' gray, sandy

41.6' to 42.0' waxy, dark gray

42.0' to 42.6' SANDSTONE, light gray, well cemented, calcareous, with thin (0.01") beds of shale and pyrite from 42.4' to 42.5'

42.6' to 44.8' waxy, with 44.7' to 44.8' a little softer

44.8' to 45.0' SILTSTONE, well cemented, light gray

45.0' to 48.3' waxy

45.3' to 45.5' tight low angle joint

45.7' a little softer

46.1' to 46.2' small lens of light brown chert

47.7' to 48.1' tight, low angle joint, with 1' displacement

48.1' to 48.2' a little softer

48.3' to 57.8' with very numerous elongate lenses and beds of light gray, moderately to well cemented sandstone and chert

50.3' to 50.4' SANDSTONE, light gray, well cemented

54.5' to 54.8'; 55.1' to 55.4'; 55.8' to 55.9'; 56.0' to 56.3'; SANDSTONE, light gray, moderately cemented

56.3' to 56.4' chert, light brown, hard

56.4' to 57.8' SANDSTONE, gray, moderately well cemented, thin-bedded, calcareous to 57.7'; 57.7' to 57.8' non calcareous, with an open low angle joint

57.8' to 70.7' waxy

60.7' to 60.9' SANDSTONE, moderately cemented, cross-bedded

60.9' to 61.5' with numerous elongate lenses of sandstone

62.2' to 62.5' tight 45° joint

62.4' to 62.6' chert, light brown, hard, also 61.1' to 61.2'; 65.7' to 65.8'; 66.1' to 66.3'

69.2' to 69.5' SANDSTONE, light gray, poorly cemented

69.7' to 69.9' SANDSTONE, poorly cemented, calcareous

70.7' to 74.3' gray, slightly cemented, calcareous, with very numerous clay streaks, moderately hard

74.3' to 101.0' gray, calcareous, as above

RECORD DRAWING-WORK AS BU

REVISION NO.	REVISION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

U.S. ARMY ENGINEER
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: _____

DRAWN BY: _____

CHECKED BY: _____

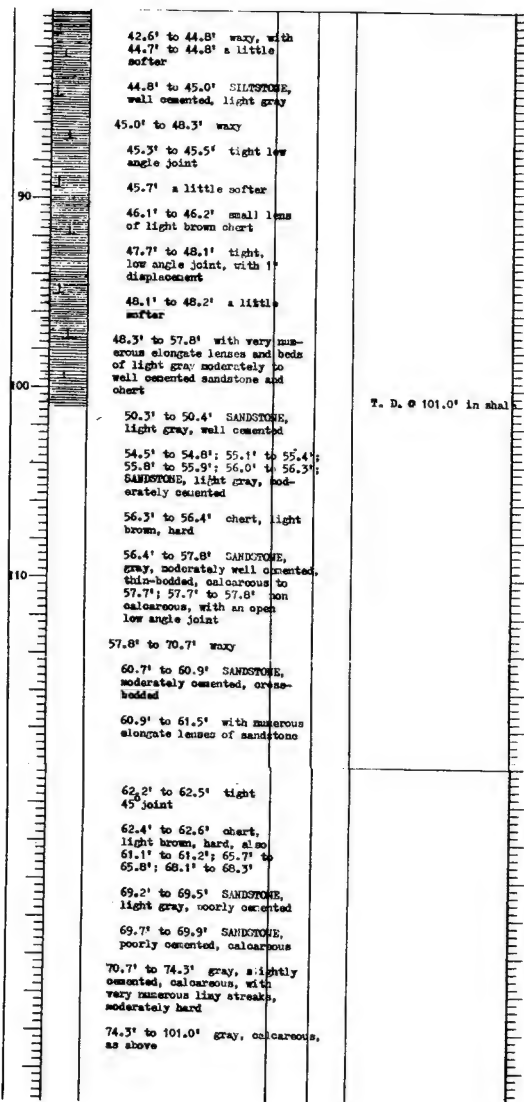
SUBMITTED BY: _____

ENGINEER: _____

Hole No. 8160-44

Hole No. 8160-44	
Sheet 1 of 4 sheets	Sheet 1 of 4 sheets
Elevations in feet - 100'	
TEST DESIGNATION OF DRILL	
1500	
QUANTITY	RETURNED
14	0
IN CORE BOXES	8
ROUND WATER	0
STARTED	COMPLETED
30 Apr 75	2 May 75
DEPT OF ARMY	
571.96	
RECOVERY FOR BORING	
95%	
REMARKS	
Drilling and testing of hole, depth of 101.0'.	

For	
A	Drilling
B	0.0' to 35.8' 8" auger 35.8' to 75.0' 6" core 0.0' to 101.0' 3" fish tail
C	For samples
D	A. 0.0' to 3.5' B. 3.5' to 5.5' C. 5.5' to 8.0' D. 8.0' to 13.0' E. 13.0' to 15.0' F. 15.0' to 19.0' G. 19.0' to 20.5' H. 20.5' to 23.5' I. 23.5' to 25.0' J. 25.0' to 27.0' K. 27.0' to 32.0' L. 32.0' to 34.0' M. 34.0' to 36.0' N. 36.0' to 36.3'
E	Carbon samples
F	1. 43.0' to 43.9' 2. 51.5' to 52.4' 3. 59.8' to 60.7' 4. 73.1' to 74.0'
G	Water level
H	Hole is making water from 32.0' to 36.3'. Two inch plastic pipe, slotted from 11.5' to 41.5', was set from 1.5' to 41.5' and backfilled with pea gravel to 4.5'
I	Notes
J	0.0' to 36.3' calcareous 36.3' to 70.7' non-cal- careous, except well cemented zones 70.7' to 101.0' calcareous
K	Due to core loss, depth of weathering is uncer- tain. 30-44 was drilled 5.0' W of 8160-44 at same elevation for purposes of geophysical logging. Log is based on drill action and cuttings
L	
M	
N	
80v	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
70	
71	
72	
73	
74	
75	
76	
77	
78	
79	
80	
81	
82	
83	
84	
85	
86	
87	
88	
89	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	
100	
101	
102	
103	
104	
105	
106	
107	
108	
109	
110	
111	
112	
113	
114	
115	
116	
117	
118	
119	
120	
121	
122	
123	
124	
125	

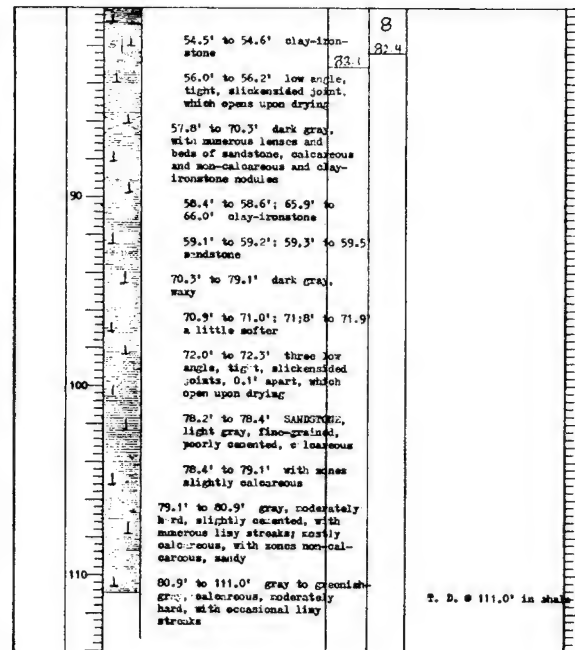


RECORD DRAWING-WORK AS BUILT

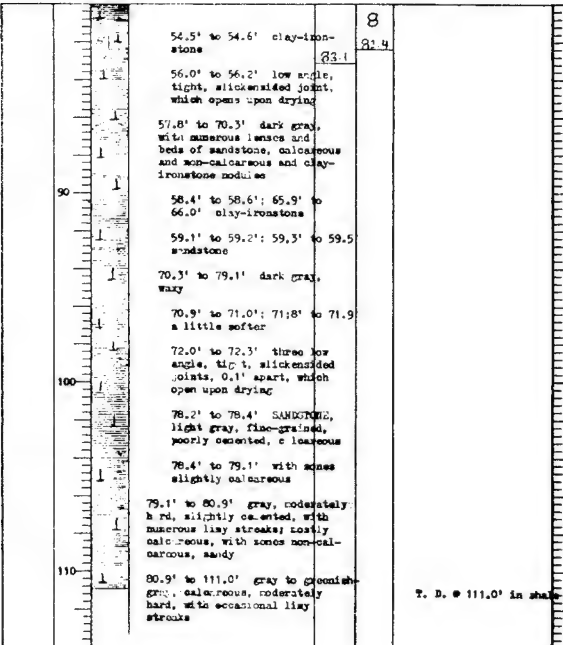
SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6DC-42, 6DC-43 AND 8A6C-44		
SUBMITTED BY:	INV. NO. DACW63-80-B-0088	DATE: AUG. 1980	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACW63-B1-2035	DRAWING NUMBER	SHEET NO. 125
		B-20 of	

Hole No. 670-15

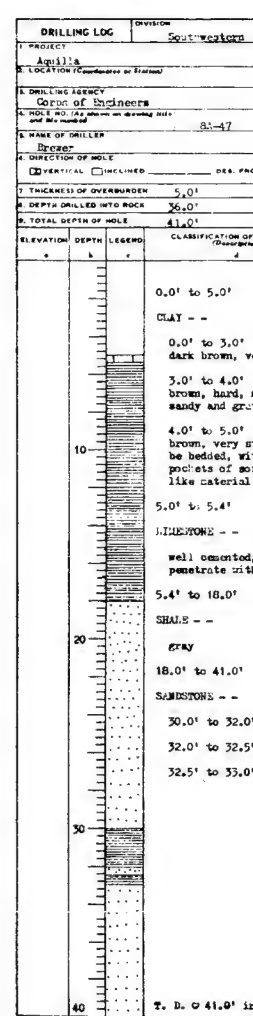
DRILLING LOG		DIVISION		INSTALLATION		SHEET	
PROJECT		UNIT/SECTION		Hole No. 670-15		SHEET 1	
1. PROJECT		2. UNIT/SECTION		3. HOLE NO. AND TYPE OF BIT		4. DATE	
5. DRILLING AGENCY		6. DRILLER		7. MANUFACTURER'S DESIGNATION OF DRILL		8. DATE MOLE	
9. HOLE NO. (If different from above)		10. HOLE NO. (If different from above)		11. TOTAL NO. OF CORE SAMPLES TAKEN		12. TOTAL NO. OF CORE SAMPLES TAKEN	
13. HOLE NO. (If different from above)		14. HOLE NO. (If different from above)		15. ELEVATION GROUND WATER		16. ELEVATION TOP OF MOLE	
17. HOLE NO. (If different from above)		18. HOLE NO. (If different from above)		19. TOTAL CORE RECOVERY FOR BORING 100% (in percent)		20. SIGNATURE OF INSPECTOR	
21. HOLE NO. (If different from above)		22. HOLE NO. (If different from above)		23. HOLE NO. (If different from above)		24. HOLE NO. (If different from above)	
25. HOLE NO. (If different from above)		26. HOLE NO. (If different from above)		27. HOLE NO. (If different from above)		28. HOLE NO. (If different from above)	
29. HOLE NO. (If different from above)		30. HOLE NO. (If different from above)		31. HOLE NO. (If different from above)		32. HOLE NO. (If different from above)	
33. HOLE NO. (If different from above)		34. HOLE NO. (If different from above)		35. HOLE NO. (If different from above)		36. HOLE NO. (If different from above)	
37. HOLE NO. (If different from above)		38. HOLE NO. (If different from above)		39. HOLE NO. (If different from above)		40. HOLE NO. (If different from above)	
41. HOLE NO. (If different from above)		42. HOLE NO. (If different from above)		43. HOLE NO. (If different from above)		44. HOLE NO. (If different from above)	
45. HOLE NO. (If different from above)		46. HOLE NO. (If different from above)		47. HOLE NO. (If different from above)		48. HOLE NO. (If different from above)	
49. HOLE NO. (If different from above)		50. HOLE NO. (If different from above)		51. HOLE NO. (If different from above)		52. HOLE NO. (If different from above)	
53. HOLE NO. (If different from above)		54. HOLE NO. (If different from above)		55. HOLE NO. (If different from above)		56. HOLE NO. (If different from above)	
57. HOLE NO. (If different from above)		58. HOLE NO. (If different from above)		59. HOLE NO. (If different from above)		60. HOLE NO. (If different from above)	
61. HOLE NO. (If different from above)		62. HOLE NO. (If different from above)		63. HOLE NO. (If different from above)		64. HOLE NO. (If different from above)	
65. HOLE NO. (If different from above)		66. HOLE NO. (If different from above)		67. HOLE NO. (If different from above)		68. HOLE NO. (If different from above)	
69. HOLE NO. (If different from above)		70. HOLE NO. (If different from above)		71. HOLE NO. (If different from above)		72. HOLE NO. (If different from above)	
73. HOLE NO. (If different from above)		74. HOLE NO. (If different from above)		75. HOLE NO. (If different from above)		76. HOLE NO. (If different from above)	
77. HOLE NO. (If different from above)		78. HOLE NO. (If different from above)		79. HOLE NO. (If different from above)		80. HOLE NO. (If different from above)	
81. HOLE NO. (If different from above)		82. HOLE NO. (If different from above)		83. HOLE NO. (If different from above)		84. HOLE NO. (If different from above)	
85. HOLE NO. (If different from above)		86. HOLE NO. (If different from above)		87. HOLE NO. (If different from above)		88. HOLE NO. (If different from above)	
89. HOLE NO. (If different from above)		90. HOLE NO. (If different from above)		91. HOLE NO. (If different from above)		92. HOLE NO. (If different from above)	
93. HOLE NO. (If different from above)		94. HOLE NO. (If different from above)		95. HOLE NO. (If different from above)		96. HOLE NO. (If different from above)	
97. HOLE NO. (If different from above)		98. HOLE NO. (If different from above)		99. HOLE NO. (If different from above)		100. HOLE NO. (If different from above)	
0.0' to 17.6'	CLAY - -	1	CLAY - -	0.0' to 2.0' 8" sugar			
0.0' to 3.0' low plasticity, grayish-brown, stiff, moist, slightly sandy		2	0.0' to 3.0' 6" B lb				
3.0' to 5.0' becomes stiff to very stiff		3	3.0' to 5.0' 6" B lb				
5.0' to 11.0' low plasticity, tan, stiff to very stiff, moist, with small line nodules to 9.0'		4	5.0' to 11.0' 6" B lb				
11.0' to 15.0' becomes slightly sandy		5	11.0' to 15.0' 6" B lb				
15.0' to 17.6' becomes sandy		6	15.0' to 17.6' 6" B lb				
17.6' to 30.0'	SAND - -	7	17.6' to 30.0' 6" B lb				
17.6' to 18.5' tan, medium dense, moist, very clayey		8	17.6' to 18.5' 6" B lb				
18.5' to 22.0' becomes slightly clayey		9	18.5' to 22.0' 6" B lb				
22.0' to 24.0' brown, loose, moist, medium-grained, with some dark minerals		10	22.0' to 24.0' 6" B lb				
24.0' to 26.0' tan, loose, moist, very fine		11	24.0' to 26.0' 6" B lb				
26.0' to 30.0' brown, loose, moist, medium-grained, with some dark minerals		12	26.0' to 30.0' 6" B lb				
30.0' to 36.5'	CLAY - -	13	30.0' to 36.5' 6" B lb				
low plasticity, tan, stiff, very moist, very sandy, with some pockets of fine to medium grained sand; becomes tan and gray at 35.0'		14	30.0' to 36.5' 6" B lb				
36.5' to 38.2'	SAND - -	15	36.5' to 38.2' 6" B lb				
light brown, loose, saturated,		16	36.5' to 38.2' 6" B lb				
fine to medium grained		17	36.5' to 38.2' 6" B lb				
38.2' to 41.0'	GRAVEL - -	18	38.2' to 41.0' 6" B lb				
loose, tan, saturated, poorly graded, to 4"		19	38.2' to 41.0' 6" B lb				
41.0' to 42.5'	SAND - -	20	41.0' to 42.5' 6" B lb				
tan and gray, medium dense, very moist, clayey, becoming very clayey at base		21	41.0' to 42.5' 6" B lb				
42.5' to 45.6'	CLAY - -	22	42.5' to 45.6' 6" B lb				
low plasticity, gray, very moist, sandy, 2.0 on penetrometer		23	42.5' to 45.6' 6" B lb				
45.6' to 52.7'	SAND and GRAVEL	24	45.6' to 52.7' 6" B lb				
45.6' to 46.6' mostly gravel, no recovery		25	45.6' to 46.6' 6" B lb				
46.6' to 47.0' SAND, gray, medium dense, very moist, clayey		26	46.6' to 47.0' 6" B lb				
47.0' to 52.7' mostly gravel and cobbles to 4"; very little recovery		27	47.0' to 52.7' 6" B lb				
52.7' to 53.1'	SANDSTONE - -	28	52.7' to 53.1' 6" B lb				
52.7' to 52.9' light gray, well cemented, calcareous		29	52.7' to 52.9' 6" B lb				
52.9' to 53.1' CLAY-IRONSTONE, light brown, hard		30	52.9' to 53.1' 6" B lb				
53.1' to 82.4'	SHALE - -	31	53.1' to 82.4' 6" B lb				
53.1' to 57.8' dark gray, non-calcareous, unweathered, waxy		32	53.1' to 57.8' 6" B lb				



T. D. @ 111.0' is shale



DIVISION		WELL		HOLE NO.		DATE		TIME		PAGE	
Southwestern		Port Santa Barbara		81-46		19 MAY 75		19 MAY 75		2	
PROJECT		Aquilla		H. SIZE AND TYPE OF BIT		8" AUGER		Y (fluted)		H. DATE	
LOCATION (Coordinates or Station)		Falling 1500		H. TOTAL NO. OF DYS		12		UNSTURBED		H. DATE	
DRILLING AGENCY		Corps of Engineers		H. TOTAL NUMBER CORE HOLES		0		ELEVATION GROUND WATER		H. DATE	
NAME OF DRILLER		Baker		H. DATE HOLE		19 MAY 75		H. DATE		19 MAY 75	
DIRECTION OF HOLE		VERTICAL		H. ELEVATION TOP OF HOLE		541.87'		H. TOTAL CORE RECOVERY FOR BORING		H. DATE	
THICKNESS OF OVERBURDEN		3.5'		H. SIGNATURE OF DRILLER		Baker		H. SIGNATURE OF SUPERVISOR		H. DATE	
DEPTH DRILLED INTO ROCK		2.5'		H. SIGNATURE OF DRILLER		Baker		H. SIGNATURE OF SUPERVISOR		H. DATE	
TOTAL DEPTH OF HOLE		57.0'		H. SIGNATURE OF DRILLER		Baker		H. SIGNATURE OF SUPERVISOR		H. DATE	
ELEVATION		DEPTH		LEGEND		CLASSIFICATION OF MATERIAL		H. SIGNATURE OF DRILLER		H. SIGNATURE OF SUPERVISOR	
0.0' to 15.5'		CLAY --		0.0' to 3.0' low to medium plasticity, gray, very moist, stiff, silty		3.0' to 6.5' medium plasticity, gray, very stiff, very moist		6.5' to 10.8' low plasticity, brown, very stiff, moist, with several small line nodules		10.8' to 13.0' low plasticity, tan, very stiff, moist, with occasional pockets of carbonaceous material	
13.0' to 15.5' becomes very sandy		15.5' to 20.3' SAND --		15.5' to 17.0' brown, loose, moist, fine to medium, slightly clayey		17.0' to 20.3' becomes clayey, down to very clayey at 19.8'; brown with some gray		20.3' to 24.0' CLAY --		low plasticity, tan with some gray, stiff, very moist, very sandy	
24.0' to 26.2' SAND --		26.2' to 30.0' CLAY --		low plasticity, brown, very moist, stiff to very stiff sandy and gravelly, to 1"		30.0' to 35.0' SAND --		tan, loose, saturated		35.0' to 34.5' GRAVEL --	
well graded, tan, saturated, clayey, to 4"		34.5' to 37.0' SHALE --		slightly weathered, gray and tan, non-calcareous		T. D. @ 37.0' in shale					



Note No. 8A-46

FALLING LOG		SHEET 1	
Project: Fort Worth District			
Size and type of bit: 8" auger, 3" flighttail			
Station for elevation shown (from 0.00)			
Manufacturer's designation of drill: Falling 1500			
Total no. of runs		Undisturbed	
12		0	
Total number core boxes		0	
Elevation ground water		Completed	
Date hole: 19 May 75		19 May 75	
Elevation top of hole: 541.87'			
Total core recovery for boring			
Signature of Inspector: [Signature]			
Remarks: (Drilling time, water level, depth of penetration, etc., if significant)			
<p>Drilling</p> <p>0.0' to 37.0' 8" auger</p> <p>0.0' to 121.0' 3" fish-tail</p> <p>Jar samples</p> <p>A. 0.0' to 3.0'</p> <p>B. 3.0' to 6.5'</p> <p>C. 6.5' to 10.8'</p> <p>D. 10.8' to 13.0'</p> <p>E. 13.0' to 15.5'</p> <p>F. 15.5' to 17.0'</p> <p>G. 17.0' to 20.3'</p> <p>H. 20.3' to 24.0'</p> <p>I. 24.0' to 28.2'</p> <p>J. 28.2' to 30.0'</p> <p>K. 30.0' to 33.0'</p> <p>L. 33.0' to 34.5'</p> <p>Water level</p> <p>Hole making water, 30.0' to 34.5'. Four inch plastic pipe, slotted from 17.0' to 37.0', was set from 2.5' to 37.0'. Hole was backfilled with pea gravel to 10.0'.</p> <p>Note</p> <p>3P-46 was drilled to 121.0' and was offset .60" E of 8A-46 at the same elevation, for purpose of geophysical logging.</p> <p>0.0' to 34.5' calcareous</p> <p>34.5' to 37.0' non-calcareous</p> <p>34.5' to 37.0' weathered</p>			

Note No. 8A-47

DRILLING LOG		SHEET 1	
Project: Fort Worth District		Division: Southwest	
Size and type of bit: 8" auger, 3" flighttail		Station for elevation shown (from 0.00)	
Manufacturer's designation of drill: Falling 1500		Total no. of runs: 12	
Undisturbed: 0		Total number core boxes: 0	
Elevation ground water: 586.92'		Completed: 15 Apr 75	
Date hole: 15 Apr 75		15 Apr 75	
Elevation top of hole: 586.92'			
Total core recovery for boring		Signature of Inspector: [Signature]	
Remarks: (Drilling time, water level, depth of penetration, etc., if significant)			
<p>Drilling</p> <p>0.0' to 5.0' 8" auger</p> <p>refusal at 5.0'</p> <p>0.0' to 41.0' 3" fish-tail</p> <p>Jar samples</p> <p>A. 0.0' to 3.0'</p> <p>B. 3.0' to 4.0'</p> <p>C. 4.0' to 5.0'</p> <p>Water level</p> <p>Hole dry at completion of augering. 24 hour check - dry.</p> <p>Note</p> <p>0.0' to 3.0' non calcareous</p> <p>3.0' to 5.4' calcareous</p> <p>5.4' to 41.0' non calcareous</p> <p>3P-47 was drilled 8.0' W of 8A-46 for purpose of geophysical logging. Log is based on cutting and drill action below 5.0'.</p>			

RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 6DC-45, 8A-46 AND 47		
SUBMITTED BY:	INV. NO. DACW63-80-B-0085	DATED: AUG 1980	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACW63-81-0035	DRAWING NUMBER	SHEET NO. 126

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 52

Drilling Log		Southwestern		Installation		Notes	
Well Name		Location		Date		Sheet	
Well No.		Section		Time		Page	
1. 0.0' to 5.7'		CLAY - -		0.0' to 1.5' low plasticity, brown, stiff, moist, silty and slightly sandy		0.0' to 6.0' 8" auger 6.0' to 41.0' 6" core 6.0' to 61.0' 3" flat-tail	
2. 5.7' to 13.6'		SHALE - -		1.5' to 3.0' becomes hard, slightly moist, gravelly		See samples A. 0.0' to 1.5' B. 1.5' to 3.0' C. 3.0' to 5.7' D. 5.7' to 6.0'	
3. 13.6' to 14.7'		LIMESTONE - -		3.0' to 5.7' low plasticity, light brown, hard, moist, sandy, with numerous small line nodules and small pockets of soft, calcine-like material		Carbon samples 1. 7.5' to 8.2' 2. 24.7' to 26.6' 3. 37.8' to 38.7'	
4. 14.7' to 28.9'		SHALE - -		11.6' to 13.6' becomes predominately tan		Water level At completion of coring core hole was bailed 38.0'. On 15 April, water level was 15.0'.	
5. 28.9' to 36.0'		SHALE - -		14.7' to 20.9' weathered, light gray to gray, thin-bedded, with very numerous elongate lenses and beds of gray, yellow, and reddish-brown sandstone		Note 0.0' to 14.7' calcareous 14.7' to 61.0' non calcareous 5.7' to 23.7' weathered 37-48 was drilled 8.0' E of 846C-48 for the purpose of geophysical logging. Geologic log is based on information gathered from both hole and based on cuttings and drill action only from 40.8' to 61.0'	
6. 36.0' to 40.8'		SHALE - -		20.9' to 23.7' slightly weathered, dark gray, with less numerous, very thin rust colored beds of sandstone			
7. 40.8' to 42.0'		SHALE - -		23.7' to 28.9' unweathered, dark gray, thin-bedded, with occasional thin beds of light gray, poorly cemented sandstone			
8. 42.0' to 47.5'		SHALE - -		27.4' to 27.7' sandstone, light gray, poorly cemented			
9. 47.5' to 51.0'		SHALE - -		28.2' to 28.9' very sandy, with numerous pockets of sandstone			
10. 51.0' to 54.0'		SHALE - -		28.9' to 36.0' very poorly cemented to non cemented, with some core loss			
11. 54.0' to 57.0'		SHALE - -		36.0' to 39.9'			
12. 57.0' to 61.0'		SHALE - -		dark gray, thin-bedded, non-fractured or jointed		42.0' to 47.5'	
13. 61.0' to 64.0'		SHALE - -		39.9' to 40.8'		SANDSTONE - -	
14. 64.0' to 67.0'		SHALE - -		gray, poorly cemented, with numerous partings of shale		47.5' to 61.0'	
15. 67.0' to 70.0'		SHALE - -		40.8' to 42.0'		dark gray	
16. 70.0' to 73.0'		SHALE - -		dark gray			

Borehole Log		Division	Metallization		Sheet
Project		Southwestern	Port Worth District		1 of 1
Well			Size and type of bit 4 1/2" pipe, 3" drill bit		
Location (coordinates or location)			Type of rig for elevation		
1. NAME OF AGENCY		2. MANUFACTURER'S DESIGNATION OF DRILL			
Name of Engineer		Falling 1500			
3. WELL NO. (if shown on drawing and on the contract)		4. BAC-49		5. TOTAL NO. OF OVER-ROUNDER SAMPLES TAKEN	2
6. NAME OF DRILLER		7. ELEVATION GROUND WATER		8. DATE HOLE	9. DATE
10. THICKNESS OF OVER-ROUNDER		11. ELEVATION TOP OF HOLE		12. DATE HOLE	13. DATE
14. DEPTH DRILLED INTO ROCK		15. TOTAL CORE RECOVERY FOR BORING		16. DATE OF INSPECTION	17. DATE
18. TOTAL DEPTH OF HOLE		19. NAME OF INSPECTION		20. DATE OF INSPECTION	21. DATE
ELEVATION		DEPTH		LEGEND	
CLARIFICATION OF MATERIALS (Description)		CORE RECOVERY (%)		REMARKS (Drilling time, water loss, depth of penetration, etc.)	
0.0' to 5.5'		100		Drilling	
CLAY - -		8		0.0' to 6.0' B* m	
0.0' to 2.0' low plasticity, dark brown, very stiff, slightly moist, slightly sandy, with scattered gravel		100		6.0' to 20.5' 6' c	
2.0' to 5.5' becomes brownish gray, dry to slightly moist, hard		100		0.0' to 30.0' 3' f	
5.5' to 6.6'		100		Jar samples	
SANDSTONE - -		100		A. 0.0' to 2.0'	
tan, weathered, fine-grained, clayey, poorly cemented, with thin zones of shale		100		B. 2.0' to 5.5'	
6.6' to 12.8'		100		C. 5.5' to 6.0'	
SHALE - -		100		Carbon samples	
6.6' to 10.2' gray, with rust along bedding planes, sandy, with thin beds and lenses of gray and rust sandstone		100		1. 8.8' to 9.7'	
7.0' to 7.2'; 10.0' to 10.2'; SANDSTONE, gray, poorly cemented		100		2. 13.5' to 14.3'	
10.2' to 12.4' becomes non-sandy		100		3. 19.6' to 20.4'	
12.4' to 12.8' becomes sandy		100		Water level	
12.8' to 30.0'		100		Boring level to 15'	
SANDSTONE - -		100		24 hour check - 8.0'	
brown to light brown, poorly cemented, with occasional thin beds of shale. Occasional broken in drilling with some core loss from 18.1' to 19.1'.		100		Hole	
12.8' to 13.5' moderately cemented, yellowish-brown and red		100		All samples are non-carbonaceous, and core hole was weathered	
25.0' to 26.0' SHALE, dark gray		100		T. B. 39-49 was of 8.0' E of BAC-49 for purposes of geophysics logging. Hole was from outcrops and section from 20.5' to 30.0'.	

Hole No. 8160-49

Hole No. 8160-50

BRILLING LOG		DIVISION		INSTALLATION		SHEET	
Southwestern		Fort Worth District		Hole No. 8160-49		SHEET 1 OF 1	
PROJECT		8160-49		Hole No. 8160-49		SHEET 1 OF 1	
LOCATION (Continuation of Sheet)		8160-49		Hole No. 8160-49		SHEET 1 OF 1	
BRILLING AGENCY		Corps of Engineers		Hole No. 8160-49		SHEET 1 OF 1	
NAME OF DRILLER		Brewer		Hole No. 8160-49		SHEET 1 OF 1	
DIRECTION OF HOLE		VERTICAL		Hole No. 8160-49		SHEET 1 OF 1	
THICKNESS OF OVERBURDEN		5.5'		Hole No. 8160-49		SHEET 1 OF 1	
DEPTH DRILLED INTO ROCK		24.5'		Hole No. 8160-49		SHEET 1 OF 1	
TOTAL DEPTH OF HOLE		30.0'		Hole No. 8160-49		SHEET 1 OF 1	
ELEVATION		579.12'		Hole No. 8160-49		SHEET 1 OF 1	
DEPTH		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
CLASSIFICATION OF MATERIALS		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
CLAY --		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
0.0' to 2.0' low plasticity, dark brown, very stiff, slightly moist, slightly sandy, with scattered gravel		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
2.0' to 5.5' becomes brownish gray, dry to slightly moist, hard		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
5.5' to 6.6'		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
SANDSTONE --		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
tan, weathered, fine-grained, clayey, poorly cemented, with thin zones of shale		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
6.6' to 12.8'		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
SHALE --		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
6.6' to 10.2' gray, with fine sand along bedding planes, sandy, with thin beds and lenses of gray and rust sandstone		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
7.0' to 7.2'; 10.0' to 10.2'; SANDSTONE, gray, poorly cemented		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
10.2' to 12.4' becomes non-sandy		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
12.4' to 12.8' becomes sandy		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
12.8' to 30.0'		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
SANDSTONE --		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
brown to light brown, poorly cemented, with occasional thin beds of shale. Badly broken in drilling with some core loss from 18.1' to 19.1'.		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
12.8' to 15.3' moderately cemented, yellowish-brown and red		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
25.0' to 28.0' SHALE, dark gray		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	
28.5' to 29.0' SHALE, dark gray		LEGEND		Hole No. 8160-49		SHEET 1 OF 1	

BRILLING LOG		DIVISION		INSTALLATION		SHEET	
Southwestern		Fort Worth District		Hole No. 8160-50		SHEET 1 OF 1	
PROJECT		8160-50		Hole No. 8160-50		SHEET 1 OF 1	
LOCATION (Continuation of Sheet)		8160-50		Hole No. 8160-50		SHEET 1 OF 1	
BRILLING AGENCY		Corps of Engineers		Hole No. 8160-50		SHEET 1 OF 1	
NAME OF DRILLER		Brewer		Hole No. 8160-50		SHEET 1 OF 1	
DIRECTION OF HOLE		VERTICAL		Hole No. 8160-50		SHEET 1 OF 1	
THICKNESS OF OVERBURDEN		6.0'		Hole No. 8160-50		SHEET 1 OF 1	
DEPTH DRILLED INTO ROCK		55.0'		Hole No. 8160-50		SHEET 1 OF 1	
TOTAL DEPTH OF HOLE		61.0'		Hole No. 8160-50		SHEET 1 OF 1	
ELEVATION		579.12'		Hole No. 8160-50		SHEET 1 OF 1	
DEPTH		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
CLASSIFICATION OF MATERIALS		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
CLAY --		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
0.0' to 2.0' low plasticity, gray, stiff, moist, slightly sandy, slightly calcareous		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
2.0' to 3.5' becomes brown, hard, with occasional small line nodules		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
3.5' to 4.5' with numerous small pockets of soft, calcareous-like material		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
4.5' to 6.0' low plasticity, reddish-brown, very stiff, very sandy, moist, with traces of bedding		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
6.0' to 15.5'		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
SHALE --		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
6.0' to 10.5' gray and tan, weathered, thin-bedded		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
10.5' to 15.5' becomes predominantly tan, sandy		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
15.5' to 15.5'		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
SANDSTONE --		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
gray, well cemented, could not penetrate with auger; shale from 14.5' to 15.0'		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
15.5' to 26.5'		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
SHALE --		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
gray to dark gray		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
18.5' to 18.8' SANDSTONE		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
26.5' to 36.0'		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
SANDSTONE --		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
poorly cemented		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
29.0' to 29.5' well cemented		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
36.0' to 39.0'		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
SHALE --		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
dark gray		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
39.0' to 46.0'		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
SANDSTONE --		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
39.0' to 40.0' well cemented		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
40.0' to 41.5' SHALE		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
45.0' to 46.0', hard, well cemented, slightly calcareous		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
46.0' to 61.0'		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
SHALE --		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
dark gray		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	
F. D. O 61.0' in shale		LEGEND		Hole No. 8160-50		SHEET 1 OF 1	

RECORD DRAW

U.S. AR

DESIGNED BY:

DRAWN BY:

CHECKED BY:

SUBMITTED BY:

ENGINEER:

TO ACCOMPANY FINAL FOI

Division		Installation		Sheet No.	
Southwestern		Fort Worth District		Sheet 1 of 1	
10. SIZE AND TYPE OF BIT		11. NAME OF RECOVERY EQUIPMENT		12. MANUFACTURER'S DESIGNATION OF DRILL	
B" auger 5" fish-tail		Palling 1500		Palling 1500	
13. TOTAL NO. OF DIVS.		14. TOTAL NUMBER CORE BOXES		15. ELEVATION GROUND WATER	
4		0		0	
16. DATE MOLE		17. ELEVATION TOP OF MOLE		18. TOTAL CORE RECOVERY FOR BORING	
12 Apr 75		595.8		0	
19. TEMPERATURE OF DIRECTOR		20. TEMPERATURE OF RECOVERY		21. REMARKS	
61.0°		61.0°		At completion of auger hole was dry, but began to communicate water from fish-tail hole.	
CLASSIFICATION OF MATERIALS		1. CORE SAMPLE NO.		2. REMARKS	
(Description)		A		Drilling	
0.0' to 6.0'		B		0.0' to 13.5' 8" auger refusal at 13.5'	
CLAY --		C		0.0' to 61.0' 3" fish-tail	
0.0' to 2.0' low plasticity, gray, stiff, moist, slightly sandy, slightly calcareous		D			
2.0' to 3.5' becomes brown, hard, with occasional small fine nodules		E		1. 0.0' to 2.0'	
3.5' to 4.5' with numerous small pockets of soft, caliche-like material		F		2. 2.0' to 3.5'	
4.5' to 6.0' low plasticity, reddish-brown, very stiff, very sandy, moist, with traces of bedding				3. 3.5' to 4.5'	
6.0' to 13.5'				4. 4.5' to 6.0'	
SHALE --				5. 6.0' to 10.5'	
6.0' to 10.5' gray and tan, weathered, thin-bedded				6. 10.5' to 13.5'	
10.5' to 13.5' becomes predominantly tan, sandy					
13.5' to 15.5'					
SANDSTONE --					
gray, well cemented, could not penetrate with auger; shaley from 14.5' to 15.0'					
15.5' to 26.5'					
SHALE --					
gray to dark gray					
18.5' to 18.8' SANDSTONE					
26.5' to 36.0'					
SANDSTONE --					
poorly cemented					
29.0' to 29.5' well cemented					
36.0' to 39.0'					
SHALE --					
dark gray					
39.0' to 46.0'					
SANDSTONE --					
39.0' to 40.0' well cemented					
40.0' to 41.5' SHALE					
45.0' to 46.0', hard, well cemented, slightly calcareous					
46.0' to 61.0'					
SHALE --					
dark gray					
2. D. O 61.0' in shale					

RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-48, 49 AND 8A-50		
SUBMITTED BY:	INV. NO. DACW63-80-B-0085	DATED: AUG. 1980	SEQUENCE NO. 127
ENGINEER:	CONTR. NO. DACW63-81-C-0035	DRAWING NUMBER	SHEET NO. B-22 of

1. HILL & C LOG

2. DIVISION **Southwestern**

3. SECTION **1A**

4. LOCATION **near base of section**

5. DATE **1950**

6. TIME **10:00**

7. NAME **W. J. B. B.**

8. TITLE **W. J. B. B.**

9. (1) IN CHARGE **DECLINED**

10. (2) IN CHARGE **DECLINED**

11. (3) IN CHARGE **DECLINED**

12. (4) IN CHARGE **DECLINED**

13. (5) IN CHARGE **DECLINED**

14. (6) IN CHARGE **DECLINED**

15. (7) IN CHARGE **DECLINED**

16. (8) IN CHARGE **DECLINED**

17. (9) IN CHARGE **DECLINED**

18. (10) IN CHARGE **DECLINED**

19. (11) IN CHARGE **DECLINED**

20. (12) IN CHARGE **DECLINED**

21. (13) IN CHARGE **DECLINED**

22. (14) IN CHARGE **DECLINED**

23. (15) IN CHARGE **DECLINED**

24. (16) IN CHARGE **DECLINED**

25. (17) IN CHARGE **DECLINED**

26. (18) IN CHARGE **DECLINED**

27. (19) IN CHARGE **DECLINED**

28. (20) IN CHARGE **DECLINED**

29. (21) IN CHARGE **DECLINED**

30. (22) IN CHARGE **DECLINED**

31. (23) IN CHARGE **DECLINED**

32. (24) IN CHARGE **DECLINED**

33. (25) IN CHARGE **DECLINED**

34. (26) IN CHARGE **DECLINED**

35. (27) IN CHARGE **DECLINED**

36. (28) IN CHARGE **DECLINED**

37. (29) IN CHARGE **DECLINED**

38. (30) IN CHARGE **DECLINED**

39. (31) IN CHARGE **DECLINED**

40. (32) IN CHARGE **DECLINED**

41. (33) IN CHARGE **DECLINED**

42. (34) IN CHARGE **DECLINED**

43. (35) IN CHARGE **DECLINED**

44. (36) IN CHARGE **DECLINED**

45. (37) IN CHARGE **DECLINED**

46. (38) IN CHARGE **DECLINED**

47. (39) IN CHARGE **DECLINED**

48. (40) IN CHARGE **DECLINED**

49. (41) IN CHARGE **DECLINED**

50. (42) IN CHARGE **DECLINED**

51. (43) IN CHARGE **DECLINED**

52. (44) IN CHARGE **DECLINED**

53. (45) IN CHARGE **DECLINED**

54. (46) IN CHARGE **DECLINED**

55. (47) IN CHARGE **DECLINED**

56. (48) IN CHARGE **DECLINED**

57. (49) IN CHARGE **DECLINED**

58. (50) IN CHARGE **DECLINED**

59. (51) IN CHARGE **DECLINED**

60. (52) IN CHARGE **DECLINED**

61. (53) IN CHARGE **DECLINED**

62. (54) IN CHARGE **DECLINED**

63. (55) IN CHARGE **DECLINED**

64. (56) IN CHARGE **DECLINED**

65. (57) IN CHARGE **DECLINED**

66. (58) IN CHARGE **DECLINED**

67. (59) IN CHARGE **DECLINED**

68. (60) IN CHARGE **DECLINED**

69. (61) IN CHARGE **DECLINED**

70. (62) IN CHARGE **DECLINED**

71. (63) IN CHARGE **DECLINED**

72. (64) IN CHARGE **DECLINED**

73. (65) IN CHARGE **DECLINED**

74. (66) IN CHARGE **DECLINED**

75. (67) IN CHARGE **DECLINED**

76. (68) IN CHARGE **DECLINED**

77. (69) IN CHARGE **DECLINED**

78. (70) IN CHARGE **DECLINED**

79. (71) IN CHARGE **DECLINED**

80. (72) IN CHARGE **DECLINED**

81. (73) IN CHARGE **DECLINED**

82. (74) IN CHARGE **DECLINED**

83. (75) IN CHARGE **DECLINED**

84. (76) IN CHARGE **DECLINED**

85. (77) IN CHARGE **DECLINED**

86. (78) IN CHARGE **DECLINED**

87. (79) IN CHARGE **DECLINED**

88. (80) IN CHARGE **DECLINED**

89. (81) IN CHARGE **DECLINED**

90. (82) IN CHARGE **DECLINED**

91. (83) IN CHARGE **DECLINED**

92. (84) IN CHARGE **DECLINED**

93. (85) IN CHARGE **DECLINED**

94. (86) IN CHARGE **DECLINED**

95. (87) IN CHARGE **DECLINED**

96. (88) IN CHARGE **DECLINED**

97. (89) IN CHARGE **DECLINED**

98. (90) IN CHARGE **DECLINED**

99. (91) IN CHARGE **DECLINED**

100. (92) IN CHARGE **DECLINED**

101. (93) IN CHARGE **DECLINED**

102. (94) IN CHARGE **DECLINED**

103. (95) IN CHARGE **DECLINED**

104. (96) IN CHARGE **DECLINED**

105. (97) IN CHARGE **DECLINED**

106. (98) IN CHARGE **DECLINED**

107. (99) IN CHARGE **DECLINED**

108. (100) IN CHARGE **DECLINED**

109. (101) IN CHARGE **DECLINED**

110. (102) IN CHARGE **DECLINED**

111. (103) IN CHARGE **DECLINED**

112. (104) IN CHARGE **DECLINED**

113. (105) IN CHARGE **DECLINED**

114. (106) IN CHARGE **DECLINED**

115. (107) IN CHARGE **DECLINED**

116. (108) IN CHARGE **DECLINED**

117. (109) IN CHARGE **DECLINED**

118. (110) IN CHARGE **DECLINED**

119. (111) IN CHARGE **DECLINED**

120. (112) IN CHARGE **DECLINED**

121. (113) IN CHARGE **DECLINED**

122. (114) IN CHARGE **DECLINED**

123. (115) IN CHARGE **DECLINED**

124. (116) IN CHARGE **DECLINED**

125. (117) IN CHARGE **DECLINED**

126. (118) IN CHARGE **DECLINED**

127. (119) IN CHARGE **DECLINED**

128. (120) IN CHARGE **DECLINED**

129. (121) IN CHARGE **DECLINED**

130. (122) IN CHARGE **DECLINED**

131. (123) IN CHARGE **DECLINED**

132. (124) IN CHARGE **DECLINED**

133. (125) IN CHARGE **DECLINED**

134. (126) IN CHARGE **DECLINED**

135. (127) IN CHARGE **DECLINED**

136. (128) IN CHARGE **DECLINED**

137. (129) IN CHARGE **DECLINED**

138. (130) IN CHARGE **DECLINED**

139. (131) IN CHARGE **DECLINED**

140. (132) IN CHARGE **DECLINED**

141. (133) IN CHARGE **DECLINED**

142. (134) IN CHARGE **DECLINED**

143. (135) IN CHARGE **DECLINED**

144. (136) IN CHARGE **DECLINED**

145. (137) IN CHARGE **DECLINED**

146. (138) IN CHARGE **DECLINED**

147. (139) IN CHARGE **DECLINED**

148. (140) IN CHARGE **DECLINED**

149. (141) IN CHARGE **DECLINED**

150. (142) IN CHARGE **DECLINED**

151. (143) IN CHARGE **DECLINED**

152. (144) IN CHARGE **DECLINED**

153. (145) IN CHARGE **DECLINED**

154. (146) IN CHARGE **DECLINED**

155. (147) IN CHARGE **DECLINED**

156. (148) IN CHARGE **DECLINED**

157. (149) IN CHARGE **DECLINED**

158. (150) IN CHARGE **DECLINED**

159. (151) IN CHARGE **DECLINED**

160. (152) IN CHARGE **DECLINED**

161. (153) IN CHARGE **DECLINED**

162. (154) IN CHARGE **DECLINED**

163. (155) IN CHARGE **DECLINED**

164. (156) IN CHARGE **DECLINED**

165. (157) IN CHARGE **DECLINED**

166. (158) IN CHARGE **DECLINED**

167. (159) IN CHARGE **DECLINED**

168. (160) IN CHARGE **DECLINED**

169. (161) IN CHARGE **DECLINED**

170. (162) IN CHARGE **DECLINED**

171. (163) IN CHARGE **DECLINED**

172. (164) IN CHARGE **DECLINED**

DRILLING LOG		Northwestern		Port North District		Hole No. 31	
PROJECT		Well No.		DATE AND TIME OF DRILLING		DRILLER	
LOCATION (State or Section)		Section		DATE		TIME	
WELL LOG (See above on opening hole and log sheets)		Borehole		DATE		TIME	
NAME OF WELLER		Borehole		DATE		TIME	
ELEVATION OF WELLS		Borehole		DATE		TIME	
VERTICAL		Borehole		DATE		TIME	
THICKNESS OF OVERBURDEN		Borehole		DATE		TIME	
DEPTH OF WELLS		Borehole		DATE		TIME	
TOTAL DEPTH OF WELLS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH		Borehole		DATE		TIME	
LOGGING		Borehole		DATE		TIME	
CLASSIFICATION OF MATERIALS		Borehole		DATE		TIME	
ELEVATION		Borehole		DATE		TIME	
DEPTH							

25.3' to 43.5'

SANDSTONE --

moderately cemented, massive,
interbedded with numerous thin
beds, alternate lenses, and partings
of shale

25.3' to 30.5' slightly weathered,
light brown, with some rust
colored staining

30.5' to 34.6' unweathered,
light gray

T. B. 6" core at 34.6'

34.8' to 36.2' SHALE

43.5' to 44.4'

LIMESTONE --

very hard to drill

44.4' to 70.0'

SHALE --

dark gray

55.0' to 55.8'; 61.0' to 61.2';

63.0' to 63.2' SILTSTONE,
tan, calcareous

T. B. @ 70.0' in shale

RECORD DRAWING-WO

TO ACCOMPANY FINAL FOUNDATION

DRILLING LOG		DIVISION		INSTALLATION		SHEET	
Southwestern		Fort Worth District		SHEET 1		OF 1 SHEETS	
1. PROJECT		2. SITE AND TYPE OF BUILT		3. DATE FOR ELEVATION DETERMINATION		4. DATE	
5. LOCATION (Continuation of Station)		6. MANUFACTURER'S DESIGNATION OF DRILL		7. TOTAL NO. OF OVER		8. UNDISTURBED	
9. BUILDING AGENCY		10. DATE HOLE		11. ELEVATION GROUND WATER		12. TOTAL NUMBER CORE BOXES	
13. HOLE NO. (As shown on drawing and on site)		14. DATE HOLE		15. ELEVATION TOP OF HOLE		16. TOTAL CORE RECOVERY FOR BORING	
17. NAME OF DRILLER		18. DATE HOLE		19. ELEVATION TOP OF HOLE		20. TOTAL CORE RECOVERY FOR BORING	
21. DIRECTION OF HOLE		22. DATE HOLE		23. ELEVATION TOP OF HOLE		24. TOTAL CORE RECOVERY FOR BORING	
25. THICKNESS OF OVERBURDEN		26. DATE HOLE		27. ELEVATION TOP OF HOLE		28. TOTAL CORE RECOVERY FOR BORING	
29. DEPTH DRILLED INTO ROCK		30. DATE HOLE		31. ELEVATION TOP OF HOLE		32. TOTAL CORE RECOVERY FOR BORING	
33. TOTAL DEPTH OF HOLE		34. DATE HOLE		35. ELEVATION TOP OF HOLE		36. TOTAL CORE RECOVERY FOR BORING	
37. TOTAL DEPTH OF HOLE		38. DATE HOLE		39. ELEVATION TOP OF HOLE		40. TOTAL CORE RECOVERY FOR BORING	
41. TOTAL DEPTH OF HOLE		42. DATE HOLE		43. ELEVATION TOP OF HOLE		44. TOTAL CORE RECOVERY FOR BORING	
45. TOTAL DEPTH OF HOLE		46. DATE HOLE		47. ELEVATION TOP OF HOLE		48. TOTAL CORE RECOVERY FOR BORING	
49. TOTAL DEPTH OF HOLE		50. DATE HOLE		51. ELEVATION TOP OF HOLE		52. TOTAL CORE RECOVERY FOR BORING	
53. TOTAL DEPTH OF HOLE		54. DATE HOLE		55. ELEVATION TOP OF HOLE		56. TOTAL CORE RECOVERY FOR BORING	
57. TOTAL DEPTH OF HOLE		58. DATE HOLE		59. ELEVATION TOP OF HOLE		60. TOTAL CORE RECOVERY FOR BORING	
61. TOTAL DEPTH OF HOLE		62. DATE HOLE		63. ELEVATION TOP OF HOLE		64. TOTAL CORE RECOVERY FOR BORING	
65. TOTAL DEPTH OF HOLE		66. DATE HOLE		67. ELEVATION TOP OF HOLE		68. TOTAL CORE RECOVERY FOR BORING	
69. TOTAL DEPTH OF HOLE		70. DATE HOLE		71. ELEVATION TOP OF HOLE		72. TOTAL CORE RECOVERY FOR BORING	
73. TOTAL DEPTH OF HOLE		74. DATE HOLE		75. ELEVATION TOP OF HOLE		76. TOTAL CORE RECOVERY FOR BORING	
77. TOTAL DEPTH OF HOLE		78. DATE HOLE		79. ELEVATION TOP OF HOLE		80. TOTAL CORE RECOVERY FOR BORING	
81. TOTAL DEPTH OF HOLE		82. DATE HOLE		83. ELEVATION TOP OF HOLE		84. TOTAL CORE RECOVERY FOR BORING	
85. TOTAL DEPTH OF HOLE		86. DATE HOLE		87. ELEVATION TOP OF HOLE		88. TOTAL CORE RECOVERY FOR BORING	
89. TOTAL DEPTH OF HOLE		90. DATE HOLE		91. ELEVATION TOP OF HOLE		92. TOTAL CORE RECOVERY FOR BORING	
93. TOTAL DEPTH OF HOLE		94. DATE HOLE		95. ELEVATION TOP OF HOLE		96. TOTAL CORE RECOVERY FOR BORING	
97. TOTAL DEPTH OF HOLE		98. DATE HOLE		99. ELEVATION TOP OF HOLE		100. TOTAL CORE RECOVERY FOR BORING	

RECORD DRAWING-WORK AS BUILT

REVISED NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A-51, 52 AND 53		
SUBMITTED BY:	INV. NO. DACW63-80-8-0085 DATED: AUG. 1980		
ENGINEER:	CONTR. NO. DACW63-80-8-0085		
	DRAWING NUMBER		
	SHEET NO. 128		
	8-23 of		

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 54

Hole No. 81-54

DRILLING LOG		Division		Section		Hole No.		Sheet	
81-54		Southwestern		Fort North District		81-54		1	
PROJECT		SUBJECT		DATE		TIME		BY	
81-54		81-54		1 Apr 75		1 Apr 75		J. D. Smith	
1. LOCATION OF HOLE		2. HOLE NO.		3. HOLE DEPTH		4. HOLE DIAMETER		5. HOLE TYPE	
81-54		81-54		18.8'		3.0"		Drilling	
6. HOLE STATUS		7. HOLE TYPE		8. HOLE DIAMETER		9. HOLE TYPE		10. HOLE STATUS	
81-54		81-54		3.0"		Drilling		81-54	
11. HOLE TYPE		12. HOLE STATUS		13. HOLE TYPE		14. HOLE STATUS		15. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
16. HOLE TYPE		17. HOLE STATUS		18. HOLE TYPE		19. HOLE STATUS		20. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
21. HOLE TYPE		22. HOLE STATUS		23. HOLE TYPE		24. HOLE STATUS		25. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
26. HOLE TYPE		27. HOLE STATUS		28. HOLE TYPE		29. HOLE STATUS		30. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
31. HOLE TYPE		32. HOLE STATUS		33. HOLE TYPE		34. HOLE STATUS		35. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
36. HOLE TYPE		37. HOLE STATUS		38. HOLE TYPE		39. HOLE STATUS		40. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
41. HOLE TYPE		42. HOLE STATUS		43. HOLE TYPE		44. HOLE STATUS		45. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
46. HOLE TYPE		47. HOLE STATUS		48. HOLE TYPE		49. HOLE STATUS		50. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
51. HOLE TYPE		52. HOLE STATUS		53. HOLE TYPE		54. HOLE STATUS		55. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
56. HOLE TYPE		57. HOLE STATUS		58. HOLE TYPE		59. HOLE STATUS		60. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
61. HOLE TYPE		62. HOLE STATUS		63. HOLE TYPE		64. HOLE STATUS		65. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
66. HOLE TYPE		67. HOLE STATUS		68. HOLE TYPE		69. HOLE STATUS		70. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
71. HOLE TYPE		72. HOLE STATUS		73. HOLE TYPE		74. HOLE STATUS		75. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
76. HOLE TYPE		77. HOLE STATUS		78. HOLE TYPE		79. HOLE STATUS		80. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
81. HOLE TYPE		82. HOLE STATUS		83. HOLE TYPE		84. HOLE STATUS		85. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
86. HOLE TYPE		87. HOLE STATUS		88. HOLE TYPE		89. HOLE STATUS		90. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
91. HOLE TYPE		92. HOLE STATUS		93. HOLE TYPE		94. HOLE STATUS		95. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	
96. HOLE TYPE		97. HOLE STATUS		98. HOLE TYPE		99. HOLE STATUS		100. HOLE TYPE	
81-54		81-54		3.0"		Drilling		81-54	

DRILLING LOG		Division		Section		Hole No.		Sheet	
81-55		Southwestern		Fort North District		81-55		2	
PROJECT		SUBJECT		DATE		TIME		BY	
81-55		81-55		1 Apr 75		1 Apr 75		J. D. Smith	
1. LOCATION OF HOLE		2. HOLE NO.		3. HOLE DEPTH		4. HOLE DIAMETER		5. HOLE TYPE	
81-55		81-55		18.8'		3.0"		Drilling	
6. HOLE STATUS		7. HOLE TYPE		8. HOLE DIAMETER		9. HOLE TYPE		10. HOLE STATUS	
81-55		81-55		3.0"		Drilling		81-55	
11. HOLE TYPE		12. HOLE STATUS		13. HOLE TYPE		14. HOLE STATUS		15. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
16. HOLE TYPE		17. HOLE STATUS		18. HOLE TYPE		19. HOLE STATUS		20. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
21. HOLE TYPE		22. HOLE STATUS		23. HOLE TYPE		24. HOLE STATUS		25. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
26. HOLE TYPE		27. HOLE STATUS		28. HOLE TYPE		29. HOLE STATUS		30. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
31. HOLE TYPE		32. HOLE STATUS		33. HOLE TYPE		34. HOLE STATUS		35. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
36. HOLE TYPE		37. HOLE STATUS		38. HOLE TYPE		39. HOLE STATUS		40. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
41. HOLE TYPE		42. HOLE STATUS		43. HOLE TYPE		44. HOLE STATUS		45. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
46. HOLE TYPE		47. HOLE STATUS		48. HOLE TYPE		49. HOLE STATUS		50. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
51. HOLE TYPE		52. HOLE STATUS		53. HOLE TYPE		54. HOLE STATUS		55. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
56. HOLE TYPE		57. HOLE STATUS		58. HOLE TYPE		59. HOLE STATUS		60. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
61. HOLE TYPE		62. HOLE STATUS		63. HOLE TYPE		64. HOLE STATUS		65. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
66. HOLE TYPE		67. HOLE STATUS		68. HOLE TYPE		69. HOLE STATUS		70. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
71. HOLE TYPE		72. HOLE STATUS		73. HOLE TYPE		74. HOLE STATUS		75. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
76. HOLE TYPE		77. HOLE STATUS		78. HOLE TYPE		79. HOLE STATUS		80. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
81. HOLE TYPE		82. HOLE STATUS		83. HOLE TYPE		84. HOLE STATUS		85. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
86. HOLE TYPE		87. HOLE STATUS		88. HOLE TYPE		89. HOLE STATUS		90. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
91. HOLE TYPE		92. HOLE STATUS		93. HOLE TYPE		94. HOLE STATUS		95. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	
96. HOLE TYPE		97. HOLE STATUS		98. HOLE TYPE		99. HOLE STATUS		100. HOLE TYPE	
81-55		81-55		3.0"		Drilling		81-55	

DRILLING LOG		Division	
1. PROJECT		Southwestern	
2. LOCATION <u>Amavilla</u>			
3. LOCATION <u>Continental or National</u>			
4. DRILLING AGENCY			
5. NAME OF <u>Engineers</u>			
6. HOLE NO. (As shown on drilling file)		BASE-57	
7. NAME OF DRILLER			
8. DIRECTION OF HOLE			
<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> DECLINED DEG. FROM			
9. THICKNESS OF OVERBURDEN			
10. DEPTH DRILLER MET TO ROCK			
11. TOTAL DEPTH OF HOLE		26.0'	

ELEVATION	DEPTH	LEGEND	CLASSIFICATION OF Description
a	b	c	d
			0.0' to 20.0'
			CLAY --
			0.0' to 4.0'
			plasticity, d
			stiff, moist,
			4.0' to 9.0'
			brown, very st
			slightly sandy
10			9.0' to 14.0'
			with occasional
			modules
			14.0' to 20.0'
			tan, stiff, ve
			saturated, ver
			20.0' to 25.0'
			SAND --
			tan, loose t
			ilty, slightl
			urated
20			25.0' to 26.0'
			GRAVEL --
			tan, medium d
			saturated, v
			refusal at 26.
			T. D. @ 26.0' in
30			

TO ACCOMPANY FINAL FOUNDA

SYMBOL NO.	ACRYON	DATE	DESCRIPTION OF REVISION
<p align="center">U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS</p>			
DESIGNED BY:	<p align="center">AQUILLA LAKE AQUILLA CREEK, TEXAS</p>		
DRAWN BY:	<p align="center">EMBANKMENT AND SPILLWAY</p>		
CHECKED BY:	<p align="center">LOGS OF BORINGS 8A-54, 55, 56 AND 8A3F-57</p>		
SUBMITTED BY:	INV. NO. DACK63-80-8-0085	DATED: AUG 1963	
ENGINEER:	CONTR. NO. DAC63-80-8-0085	SEQUENCE NO. 129	
	DRAWING NUMBER	SHEET NO. 129	
		B-24 OF	

PLATE 55

CONF. NO. 04-11-23-01-0095

Make No. 6437-58

Drilling Log		Division		Installation		Sheet	
Southwestern		Fort North District		Sheet 1		Sheet 1	
1. PROJECT		2. LOCATION (Coordinate or Position)		3. NAME OF DRILLER		4. DATE	
5. NAME OF DRILLER		6. DATE		7. NAME OF DRILLER		8. DATE	
9. NAME OF DRILLER		10. DATE		11. NAME OF DRILLER		12. DATE	
13. NAME OF DRILLER		14. DATE		15. NAME OF DRILLER		16. DATE	
17. NAME OF DRILLER		18. DATE		19. NAME OF DRILLER		20. DATE	
21. NAME OF DRILLER		22. DATE		23. NAME OF DRILLER		24. DATE	
25. NAME OF DRILLER		26. DATE		27. NAME OF DRILLER		28. DATE	
29. NAME OF DRILLER		30. DATE		31. NAME OF DRILLER		32. DATE	
33. NAME OF DRILLER		34. DATE		35. NAME OF DRILLER		36. DATE	
37. NAME OF DRILLER		38. DATE		39. NAME OF DRILLER		40. DATE	
41. NAME OF DRILLER		42. DATE		43. NAME OF DRILLER		44. DATE	
45. NAME OF DRILLER		46. DATE		47. NAME OF DRILLER		48. DATE	
49. NAME OF DRILLER		50. DATE		51. NAME OF DRILLER		52. DATE	
53. NAME OF DRILLER		54. DATE		55. NAME OF DRILLER		56. DATE	
57. NAME OF DRILLER		58. DATE		59. NAME OF DRILLER		60. DATE	
61. NAME OF DRILLER		62. DATE		63. NAME OF DRILLER		64. DATE	
65. NAME OF DRILLER		66. DATE		67. NAME OF DRILLER		68. DATE	
69. NAME OF DRILLER		70. DATE		71. NAME OF DRILLER		72. DATE	
73. NAME OF DRILLER		74. DATE		75. NAME OF DRILLER		76. DATE	
77. NAME OF DRILLER		78. DATE		79. NAME OF DRILLER		80. DATE	
81. NAME OF DRILLER		82. DATE		83. NAME OF DRILLER		84. DATE	
85. NAME OF DRILLER		86. DATE		87. NAME OF DRILLER		88. DATE	
89. NAME OF DRILLER		90. DATE		91. NAME OF DRILLER		92. DATE	
93. NAME OF DRILLER		94. DATE		95. NAME OF DRILLER		96. DATE	
97. NAME OF DRILLER		98. DATE		99. NAME OF DRILLER		100. DATE	

Drilling Log		Division		Installation		Sheet	
Southwestern		Fort North District		Sheet 1		Sheet 1	
1. PROJECT		2. LOCATION (Coordinate or Position)		3. NAME OF DRILLER		4. DATE	
5. NAME OF DRILLER		6. DATE		7. NAME OF DRILLER		8. DATE	
9. NAME OF DRILLER		10. DATE		11. NAME OF DRILLER		12. DATE	
13. NAME OF DRILLER		14. DATE		15. NAME OF DRILLER		16. DATE	
17. NAME OF DRILLER		18. DATE		19. NAME OF DRILLER		20. DATE	
21. NAME OF DRILLER		22. DATE		23. NAME OF DRILLER		24. DATE	
25. NAME OF DRILLER		26. DATE		27. NAME OF DRILLER		28. DATE	
29. NAME OF DRILLER		30. DATE		31. NAME OF DRILLER		32. DATE	
33. NAME OF DRILLER		34. DATE		35. NAME OF DRILLER		36. DATE	
37. NAME OF DRILLER		38. DATE		39. NAME OF DRILLER		40. DATE	
41. NAME OF DRILLER		42. DATE		43. NAME OF DRILLER		44. DATE	
45. NAME OF DRILLER		46. DATE		47. NAME OF DRILLER		48. DATE	
49. NAME OF DRILLER		50. DATE		51. NAME OF DRILLER		52. DATE	
53. NAME OF DRILLER		54. DATE		55. NAME OF DRILLER		56. DATE	
57. NAME OF DRILLER		58. DATE		59. NAME OF DRILLER		60. DATE	
61. NAME OF DRILLER		62. DATE		63. NAME OF DRILLER		64. DATE	
65. NAME OF DRILLER		66. DATE		67. NAME OF DRILLER		68. DATE	
69. NAME OF DRILLER		70. DATE		71. NAME OF DRILLER		72. DATE	
73. NAME OF DRILLER		74. DATE		75. NAME OF DRILLER		76. DATE	
77. NAME OF DRILLER		78. DATE		79. NAME OF DRILLER		80. DATE	
81. NAME OF DRILLER		82. DATE		83. NAME OF DRILLER		84. DATE	
85. NAME OF DRILLER		86. DATE		87. NAME OF DRILLER		88. DATE	
89. NAME OF DRILLER		90. DATE		91. NAME OF DRILLER		92. DATE	
93. NAME OF DRILLER		94. DATE		95. NAME OF DRILLER		96. DATE	
97. NAME OF DRILLER		98. DATE		99. NAME OF DRILLER		100. DATE	

State No. 643-59

DRILLING LOG	SOUTHWESTERN	INSTALLATION	Fort Worth District	SHEET	1
PROJECT	Acadia	DATE AND TYPE OF BIT	4 1/2" auger	OF	1
LOCATION (Coordinates or Name)	Acadia	DATE FOR ELEVATION DETERMINATION	21 Apr 75		
DRILLING AGENCY	Corps of Engineers	MANUFACTURER'S DESIGNATION OF DRILL	Palmer 1500		
DATE OF LOG	6 Apr 75	DATE WHEN LOG WAS MADE	22 Apr 75		
NAME OF DRILLER	James L. Martin	DATE WHEN LOG WAS MADE	22 Apr 75		
THICKNESS OF OVERBURDEN	6.0'	DATE WHEN LOG WAS MADE	22 Apr 75		
DEPTH DRILLED INTO ROCK	1.0'	DATE WHEN LOG WAS MADE	22 Apr 75		
TOTAL DEPTH OF HOLE	7.0'	DATE WHEN LOG WAS MADE	22 Apr 75		

CLASSIFICATION OF MATERIALS

0.0' to 6.0'

CLAY --

0.0' to 0.8' low plasticity, brown, moist, sandy, crumbly, non-calcareous, with very small lime nodules

0.8' to 3.5' low plasticity, brown, hard, moist, slightly sandy, slightly calcareous

3.5' to 4.5' becomes gravelly

4.5' to 6.0' low plasticity, reddish-brown, very stiff, moist, sandy and gravelly, calcareous

6.0' to 7.0'

SHALE --

weathered, gray and tan, non-calcareous

T. D. @ 7.0' in shale

REMARKS

Drilling

0.0' to 7.0' 8" auger

1. 0.0' to 0.8'

2. 0.8' to 3.5'

3. 3.5' to 4.5'

4. 4.5' to 6.0'

5. 6.0' to 7.0'

"Water level"

24 hour check - dry.

Note

Hole was offset 2. 6.0' and drilled with a 4" rockbit to 91.0' for purposes of geophysical logging.

State No. 36A-50

DRILLING LOG	SOUTHWESTERN	INSTALLATION	Fort Worth District	SHEET	1
PROJECT	Acadia	DATE AND TYPE OF BIT	4 1/2" auger	OF	2
LOCATION (Coordinates or Name)	Acadia	DATE FOR ELEVATION DETERMINATION	21 Apr 75		
DRILLING AGENCY	Corps of Engineers	MANUFACTURER'S DESIGNATION OF DRILL	Palmer 1500		
DATE OF LOG	6 Apr 75	DATE WHEN LOG WAS MADE	22 Apr 75		
NAME OF DRILLER	James L. Martin	DATE WHEN LOG WAS MADE	22 Apr 75		
THICKNESS OF OVERBURDEN	6.0'	DATE WHEN LOG WAS MADE	22 Apr 75		
DEPTH DRILLED INTO ROCK	1.0'	DATE WHEN LOG WAS MADE	22 Apr 75		
TOTAL DEPTH OF HOLE	7.0'	DATE WHEN LOG WAS MADE	22 Apr 75		

CLASSIFICATION OF MATERIALS

0.0' to 19.0'

CLAY --

low plasticity, brown, sandy

19.0' to 27.0'

SAND --

tan, loose to medium dense, clayey at top, moist

27.0' to 35.5'

GRAVEL and SAND --

difficult to pick out contents on auger; gravel dark brown, well graded, very moist to saturated at 34.0'; sand - tan, gravelly

35.5' to 54.5'

SHALE --

dark gray, unweathered, non-calcareous, with numerous thin lenses of sandstone, and nodules of clay-ironstone

54.5'

SANDSTONE --

well cemented, could not penetrate with auger or dry barrel

T. D. @ 54.5' in sandstone

REMARKS

Drilling

0.0' to 54.5' 4 1/2" auger refusal at 54.5'

54.5' 4 1/2" dry barrel refusal at 54.5'

0.0' to 36.0' casing

"Water level"

Hole was making water from 34.0' to 35.5'. 24 hour check (before casing pulled) - dry.

Note

Hole was logged by outtings, drill action, and visual inspection.

0.0' to 35.5' calcareous

35.5' to 54.5' non-calcareous

Primary is unweathered

State No. 36A-50

DRILLING LOG	SOUTHWESTERN	INSTALLATION	Fort Worth District	SHEET	1
PROJECT	Acadia	DATE AND TYPE OF BIT	4 1/2" auger	OF	2
LOCATION (Coordinates or Name)	Acadia	DATE FOR ELEVATION DETERMINATION	21 Apr 75		
DRILLING AGENCY	Corps of Engineers	MANUFACTURER'S DESIGNATION OF DRILL	Palmer 1500		
DATE OF LOG	6 Apr 75	DATE WHEN LOG WAS MADE	22 Apr 75		
NAME OF DRILLER	James L. Martin	DATE WHEN LOG WAS MADE	22 Apr 75		
THICKNESS OF OVERBURDEN	6.0'	DATE WHEN LOG WAS MADE	22 Apr 75		
DEPTH DRILLED INTO ROCK	1.0'	DATE WHEN LOG WAS MADE	22 Apr 75		
TOTAL DEPTH OF HOLE	7.0'	DATE WHEN LOG WAS MADE	22 Apr 75		

CLASSIFICATION OF MATERIALS

0.0' to 5.5'

CLAY --

low plasticity, brown, moist, sandy, crumbly, non-calcareous, with very small lime nodules

5.5' to 13.1'

SHALE --

tan, calcareous interbedded with sand

13.1' to 14.0'

SHALE --

14.0' to 15.2'

SHALE --

15.2' to 16.5'

SANDSTONE --

tan and gray, with bones of shell

16.5' to 25.9'

SHALE --

16.5' to 24.5' weathered, with fractures

24.5' to 25.5' unweathered

25.5' to 32.1'

SANDSTONE --

poorly cemented with shale

32.1' to 35.5'

SHALE --

35.5' to 37.0'

SHALE --

37.0' to 42.0'

SANDSTONE --

gray, poorly cemented

T. D. @ 42.0' in sandstone

RECORD DRA

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SUBMITTED BY:	
ENGINEER:	

TO ACCOMPANY FINAL F

Hole No. 36A-60
 North District
 SHEET 1 OF 2 SHEETS
 TYPE OF BAY 42" DIAMETER
 ELEVATION SHOWN (TBM) 582.19
 USER'S DESIGNATION OF DRILL
 CORPUS OF ENGINEERS
 DISTURBED 0 UNDISTURBED 0
 WHEN CORE BOXES 0
 WHEN GROUND WATER 0
 K STARTED 12 May 75 COMPLETED 13 May 75
 TOP OF HOLE 538.52'
 RECOVERY FOR BORING 5
 REMARKS
 (Drilling time, water level, depth of weathering, etc., if significant)

DRILLING LOG
 DIVISION Southwestern
 INSTALLATION 36A-60
 PROJECT Aquilla
 LOCATION (Geographical or Station)
 DRILLING AGENCY
 CORPUS OF ENGINEERS
 HOLE NO. (As shown on drawing) 36A-60
 NAME OF DRILLER Martin and Martin
 DIRECTION OF HOLE
 VERTICAL ☒ INCLINED ☐ DES. FROM VERT.
 THICKNESS OF OVERBURDEN 5.5'
 DEPTH DRILLED INTO ROCK 36.5'
 TOTAL DEPTH OF HOLE 42.0'
 CLARIFICATION OF MATERIALS (Described)
 ELEVATION DEPTH LEGEND
 0.0' to 5.5' CLAY - -
 low plasticity, brown, very stiff, moist, with small lime nodules and pockets of soft calcite-like material which become more numerous downward
 5.5' to 13.1' SHALE - -
 tan, calcareous, weathered, interbedded with thin beds of sand
 13.1' to 14.0' LIMESTONE - -
 light gray, sandy, well cemented, difficult to auger
 14.0' to 15.2' SHALE - -
 tan and gray, weathered, with zones sandy, non-calcareous
 15.2' to 16.5' SANDSTONE - -
 brown, poorly cemented, with numerous thin beds of shale
 16.5' to 25.9' SHALE - -
 16.5' to 24.9' tan and gray, weathered, with some thin fractures from 20.0' to 20.7'
 24.9' to 25.9' dark gray, unweathered
 25.9' to 32.1' SANDSTONE - -
 25.9' to 32.1' tan, weathered, poorly cemented, interbedded with shale
 32.1' to 35.0' gray, unweathered
 35.0' to 37.0' SHALE - -
 dark gray
 37.0' to 42.0' SANDSTONE - -
 gray, poorly cemented
 T. D. @ 42.0' in sandstone

Drilling
 0.0' to 54.5' 42" auger refusal at 54.5'
 54.5' 42" dry barrel refusal at 54.5'
 0.0' to 36.0' casing
 Water level
 Hole was making water from 34.0' to 35.5'.
 24 hour check (before casing pulled) - dry.
 Note
 Hole was logged by outcrops, drill action, and visual inspection.
 0.0' to 35.5' calcareous
 35.5' to 54.5' non-calcareous
 Primary is unweathered

Drilling
 0.0' to 42.0' 42" auger
 0.0' to 8.0' casing
 Water level
 Hole is making water at 30.0'. 18 hour check - 23.3'
 Note
 Hole was logged by cuttings and visual inspection.
 0.0' to 14.0' calcareous
 14.0' to 42.0' non-calcareous
 5.5' to 24.9' weathered
 24.9' to 25.9' unweathered
 25.9' to 32.1' weathered
 32.1' to 42.0' unweathered

RECORD DRAWING-WORK AS BUILT

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
 CORPS OF ENGINEERS
 FORT WORTH, TEXAS
 DESIGNED BY:
 DRAWN BY:
 CHECKED BY:
 SUBMITTED BY:
 ENGINEER:
 AQUILLA LAKE
 AQUILLA CREEK, TEXAS
 EMBANKMENT AND SPILLWAY
 LOGS OF BORINGS
 6A3F-58, 59, 36A-60 AND 61
 INV. NO. DACW63-80-B-0086 DATED: AUG. 1980
 CONTR. NO. DACW63-81-C-0035
 DRAWING NUMBER SHEET NO. 130
 8-25 OF

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 58

CONTRACT NO. DACW63-81-C-0035

DRILLING LOG		DIVISION		INSTALLATION		Hole No. 35-62	
Section Item		Location		Port North Street		Sheet 1	
1. LOCATION OF DRILLING SITE		2. MANUFACTURER'S DESIGNATION OF DRILL		3. TOTAL NO. OF OVER-ROUNDER SAMPLES TAKEN		4. UNDISTURBED	
35A-62				0		0	
3. NAME OF DRILLER		5. ELEVATION GROUND WATER		6. TOTAL CORE RECOVERY FOR BORING		7. REMARKS	
Boring		13' by 75'		536.45'		Drilling	
4. DIRECTION OF HOLE		7. DATE HOLE		8. ELEVATION TOP OF HOLE		9. REMARKS	
VERTICAL		13 May 75		536.45'		Hole was dry to 59.0' during augering, except it was seeping slightly at 59.0'. Very little water was in the hole after 24 hours.	
5. THICKNESS OF OVERBURDEN		8. ELEVATION TOP OF HOLE		9. REMARKS		10. REMARKS	
±1.0'		536.45'				Hole was logged by direction and visual inspection.	
6. DEPTH DRILLED INTO ROCK		10. REMARKS		11. REMARKS		12. REMARKS	
±58.0'						0.0' to 59.0' 42" aug refusal at 59.0' 0.0' to 8.0' casing	
7. TOTAL DEPTH OF HOLE		11. REMARKS		12. REMARKS		"Water Level"	
59.0'						Note	
ELEVATION		13. CORE RECOVERY		14. REMARKS		15. REMARKS	
10		NO				0.0' to 53.8' non-calcareous	
20		NO				53.8' to 59.0' mostly calcareous	
30		NO				1.0' to 25.3' weathered	
40		NO				25.3' to T. D. unweathered	
50		NO					
60		NO					

[illegible]

D R I L L I N G L O G

CORE NO. _____ DATE _____

1 - SITE _____
2 - LOCATION (Coordinates or Street Map) _____

3 DRILLING AGENCY
A Company No. _____
B Name of Driller _____

4 METHOD OF LOGGING (How was log obtained? Note used if applicable) _____

5 NAME OF WELLER _____

6 DEPTH OF HOLE _____

7 DIRECTION OF DIP _____

8 STRATIGRAPHIC CORRELATION _____

9 COMMENTS ON OVERBURDEN _____

10 DEPTH OF DRILLING INTO ROCK _____

11 TOTAL DEPTH OF HOLE _____

ELEVATION _____ DEPTH _____ LEGEND _____ CLASSIFICATION OF Description _____

a b c d

0.0' to 8.0'
CLAY --
0.0' to 4.0' is gray, very stiff, with small, lime
4.0' to 5.5' is gray, with nodules
5.5' to 8.0' is gray, with some moist, sandy
8.0' to 10.0'
SAND --
gray with some tuffaceous, dense, clayey
10.0' to 12.0'
GRAVEL --
tan, loose, sand graded, clayey.
12.0'
SLUDGE --
well cemented; o with a mger
T. D. at 12.0' in g

SYM	DO	NO	ACTION	DATE
U.S. ARMY E				
DESIGNED BY:				

DRAWN BY:				

CHECKED BY:				

SUBMITTED BY:				

ENGINEER:				

TO ACCOMPANY FINAL FOUNDATIC

Hole No. 35-4

INSTALLATION		SHEET	
OF 1 SHEETS		OF 1 SHEETS	
1. PROJECT Counterweight			
2. LOCATION (Coordinates or Station)			
3. MANUFACTURER'S DESIGNATION OF DRILL Miller 1500			
4. TOTAL NO. OF OVER-RODDED SAMPLES TAKEN 0			
5. TOTAL NUMBER CORE BOXES 0			
6. ELEVATION GROUND WATER 0			
7. DATE HOLE 10 June 75			
8. ELEVATION TOP OF HOLE 509.0			
9. ELEVATION TOP OF HOLE 509.0			
10. ELEVATION TOP OF HOLE 509.0			
11. ELEVATION TOP OF HOLE 509.0			
12. ELEVATION TOP OF HOLE 509.0			
13. ELEVATION TOP OF HOLE 509.0			
14. ELEVATION TOP OF HOLE 509.0			
15. ELEVATION TOP OF HOLE 509.0			
16. ELEVATION TOP OF HOLE 509.0			
17. ELEVATION TOP OF HOLE 509.0			
18. ELEVATION TOP OF HOLE 509.0			
19. ELEVATION TOP OF HOLE 509.0			
20. ELEVATION TOP OF HOLE 509.0			
21. ELEVATION TOP OF HOLE 509.0			
22. ELEVATION TOP OF HOLE 509.0			
23. ELEVATION TOP OF HOLE 509.0			
24. ELEVATION TOP OF HOLE 509.0			
25. ELEVATION TOP OF HOLE 509.0			
26. ELEVATION TOP OF HOLE 509.0			
27. ELEVATION TOP OF HOLE 509.0			
28. ELEVATION TOP OF HOLE 509.0			
29. ELEVATION TOP OF HOLE 509.0			
30. ELEVATION TOP OF HOLE 509.0			
31. ELEVATION TOP OF HOLE 509.0			
32. ELEVATION TOP OF HOLE 509.0			
33. ELEVATION TOP OF HOLE 509.0			
34. ELEVATION TOP OF HOLE 509.0			
35. ELEVATION TOP OF HOLE 509.0			
36. ELEVATION TOP OF HOLE 509.0			
37. ELEVATION TOP OF HOLE 509.0			
38. ELEVATION TOP OF HOLE 509.0			
39. ELEVATION TOP OF HOLE 509.0			
40. ELEVATION TOP OF HOLE 509.0			
41. ELEVATION TOP OF HOLE 509.0			
42. ELEVATION TOP OF HOLE 509.0			
43. ELEVATION TOP OF HOLE 509.0			
44. ELEVATION TOP OF HOLE 509.0			
45. ELEVATION TOP OF HOLE 509.0			
46. ELEVATION TOP OF HOLE 509.0			
47. ELEVATION TOP OF HOLE 509.0			
48. ELEVATION TOP OF HOLE 509.0			
49. ELEVATION TOP OF HOLE 509.0			
50. ELEVATION TOP OF HOLE 509.0			
51. ELEVATION TOP OF HOLE 509.0			
52. ELEVATION TOP OF HOLE 509.0			
53. ELEVATION TOP OF HOLE 509.0			
54. ELEVATION TOP OF HOLE 509.0			
55. ELEVATION TOP OF HOLE 509.0			
56. ELEVATION TOP OF HOLE 509.0			
57. ELEVATION TOP OF HOLE 509.0			
58. ELEVATION TOP OF HOLE 509.0			
59. ELEVATION TOP OF HOLE 509.0			
60. ELEVATION TOP OF HOLE 509.0			
61. ELEVATION TOP OF HOLE 509.0			
62. ELEVATION TOP OF HOLE 509.0			
63. ELEVATION TOP OF HOLE 509.0			
64. ELEVATION TOP OF HOLE 509.0			
65. ELEVATION TOP OF HOLE 509.0			
66. ELEVATION TOP OF HOLE 509.0			
67. ELEVATION TOP OF HOLE 509.0			
68. ELEVATION TOP OF HOLE 509.0			
69. ELEVATION TOP OF HOLE 509.0			
70. ELEVATION TOP OF HOLE 509.0			
71. ELEVATION TOP OF HOLE 509.0			
72. ELEVATION TOP OF HOLE 509.0			
73. ELEVATION TOP OF HOLE 509.0			
74. ELEVATION TOP OF HOLE 509.0			
75. ELEVATION TOP OF HOLE 509.0			
76. ELEVATION TOP OF HOLE 509.0			
77. ELEVATION TOP OF HOLE 509.0			
78. ELEVATION TOP OF HOLE 509.0			
79. ELEVATION TOP OF HOLE 509.0			
80. ELEVATION TOP OF HOLE 509.0			
81. ELEVATION TOP OF HOLE 509.0			
82. ELEVATION TOP OF HOLE 509.0			
83. ELEVATION TOP OF HOLE 509.0			
84. ELEVATION TOP OF HOLE 509.0			
85. ELEVATION TOP OF HOLE 509.0			
86. ELEVATION TOP OF HOLE 509.0			
87. ELEVATION TOP OF HOLE 509.0			
88. ELEVATION TOP OF HOLE 509.0			
89. ELEVATION TOP OF HOLE 509.0			
90. ELEVATION TOP OF HOLE 509.0			
91. ELEVATION TOP OF HOLE 509.0			
92. ELEVATION TOP OF HOLE 509.0			
93. ELEVATION TOP OF HOLE 509.0			
94. ELEVATION TOP OF HOLE 509.0			
95. ELEVATION TOP OF HOLE 509.0			
96. ELEVATION TOP OF HOLE 509.0			
97. ELEVATION TOP OF HOLE 509.0			
98. ELEVATION TOP OF HOLE 509.0			
99. ELEVATION TOP OF HOLE 509.0			
100. ELEVATION TOP OF HOLE 509.0			

INSTALLATION		SHEET	
OF 1 SHEETS		OF 1 SHEETS	
1. PROJECT Counterweight			
2. LOCATION (Coordinates or Station)			
3. MANUFACTURER'S DESIGNATION OF DRILL Miller 1500			
4. TOTAL NO. OF OVER-RODDED SAMPLES TAKEN 0			
5. TOTAL NUMBER CORE BOXES 0			
6. ELEVATION GROUND WATER 0			
7. DATE HOLE 10 June 75			
8. ELEVATION TOP OF HOLE 509.0			
9. ELEVATION TOP OF HOLE 509.0			
10. ELEVATION TOP OF HOLE 509.0			
11. ELEVATION TOP OF HOLE 509.0			
12. ELEVATION TOP OF HOLE 509.0			
13. ELEVATION TOP OF HOLE 509.0			
14. ELEVATION TOP OF HOLE 509.0			
15. ELEVATION TOP OF HOLE 509.0			
16. ELEVATION TOP OF HOLE 509.0			
17. ELEVATION TOP OF HOLE 509.0			
18. ELEVATION TOP OF HOLE 509.0			
19. ELEVATION TOP OF HOLE 509.0			
20. ELEVATION TOP OF HOLE 509.0			
21. ELEVATION TOP OF HOLE 509.0			
22. ELEVATION TOP OF HOLE 509.0			
23. ELEVATION TOP OF HOLE 509.0			
24. ELEVATION TOP OF HOLE 509.0			
25. ELEVATION TOP OF HOLE 509.0			
26. ELEVATION TOP OF HOLE 509.0			
27. ELEVATION TOP OF HOLE 509.0			
28. ELEVATION TOP OF HOLE 509.0			
29. ELEVATION TOP OF HOLE 509.0			
30. ELEVATION TOP OF HOLE 509.0			
31. ELEVATION TOP OF HOLE 509.0			
32. ELEVATION TOP OF HOLE 509.0			
33. ELEVATION TOP OF HOLE 509.0			
34. ELEVATION TOP OF HOLE 509.0			
35. ELEVATION TOP OF HOLE 509.0			
36. ELEVATION TOP OF HOLE 509.0			
37. ELEVATION TOP OF HOLE 509.0			
38. ELEVATION TOP OF HOLE 509.0			
39. ELEVATION TOP OF HOLE 509.0			
40. ELEVATION TOP OF HOLE 509.0			
41. ELEVATION TOP OF HOLE 509.0			
42. ELEVATION TOP OF HOLE 509.0			
43. ELEVATION TOP OF HOLE 509.0			
44. ELEVATION TOP OF HOLE 509.0			
45. ELEVATION TOP OF HOLE 509.0			
46. ELEVATION TOP OF HOLE 509.0			
47. ELEVATION TOP OF HOLE 509.0			
48. ELEVATION TOP OF HOLE 509.0			
49. ELEVATION TOP OF HOLE 509.0			
50. ELEVATION TOP OF HOLE 509.0			
51. ELEVATION TOP OF HOLE 509.0			
52. ELEVATION TOP OF HOLE 509.0			
53. ELEVATION TOP OF HOLE 509.0			
54. ELEVATION TOP OF HOLE 509.0			
55. ELEVATION TOP OF HOLE 509.0			
56. ELEVATION TOP OF HOLE 509.0			
57. ELEVATION TOP OF HOLE 509.0			
58. ELEVATION TOP OF HOLE 509.0			
59. ELEVATION TOP OF HOLE 509.0			
60. ELEVATION TOP OF HOLE 509.0			
61. ELEVATION TOP OF HOLE 509.0			
62. ELEVATION TOP OF HOLE 509.0			
63. ELEVATION TOP OF HOLE 509.0			
64. ELEVATION TOP OF HOLE 509.0			
65. ELEVATION TOP OF HOLE 509.0			
66. ELEVATION TOP OF HOLE 509.0			
67. ELEVATION TOP OF HOLE 509.0			
68. ELEVATION TOP OF HOLE 509.0			
69. ELEVATION TOP OF HOLE 509.0			
70. ELEVATION TOP OF HOLE 509.0			
71. ELEVATION TOP OF HOLE 509.0			
72. ELEVATION TOP OF HOLE 509.0			
73. ELEVATION TOP OF HOLE 509.0			
74. ELEVATION TOP OF HOLE 509.0			
75. ELEVATION TOP OF HOLE 509.0			
76. ELEVATION TOP OF HOLE 509.0			
77. ELEVATION TOP OF HOLE 509.0			
78. ELEVATION TOP OF HOLE 509.0			
79. ELEVATION TOP OF HOLE 509.0			
80. ELEVATION TOP OF HOLE 509.0			
81. ELEVATION TOP OF HOLE 509.0			
82. ELEVATION TOP OF HOLE 509.0			
83. ELEVATION TOP OF HOLE 509.0			
84. ELEVATION TOP OF HOLE 509.0			
85. ELEVATION TOP OF HOLE 509.0			
86. ELEVATION TOP OF HOLE 509.0			
87. ELEVATION TOP OF HOLE 509.0			
88. ELEVATION TOP OF HOLE 509.0			
89. ELEVATION TOP OF HOLE 509.0			
90. ELEVATION TOP OF HOLE 509.0			
91. ELEVATION TOP OF HOLE 509.0			
92. ELEVATION TOP OF HOLE 509.0			
93. ELEVATION TOP OF HOLE 509.0			
94. ELEVATION TOP OF HOLE 509.0			
95. ELEVATION TOP OF HOLE 509.0			
96. ELEVATION TOP OF HOLE 509.0			
97. ELEVATION TOP OF HOLE 509.0			
98. ELEVATION TOP OF HOLE 509.0			
99. ELEVATION TOP OF HOLE 509.0			
100. ELEVATION TOP OF HOLE 509.0			

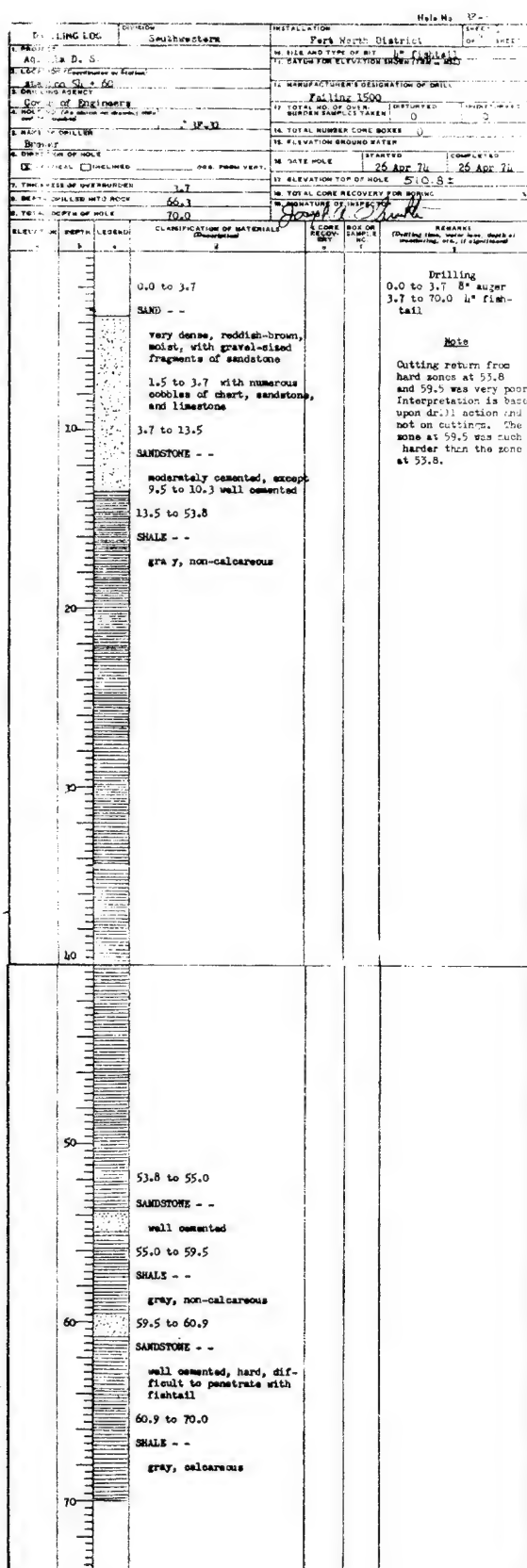
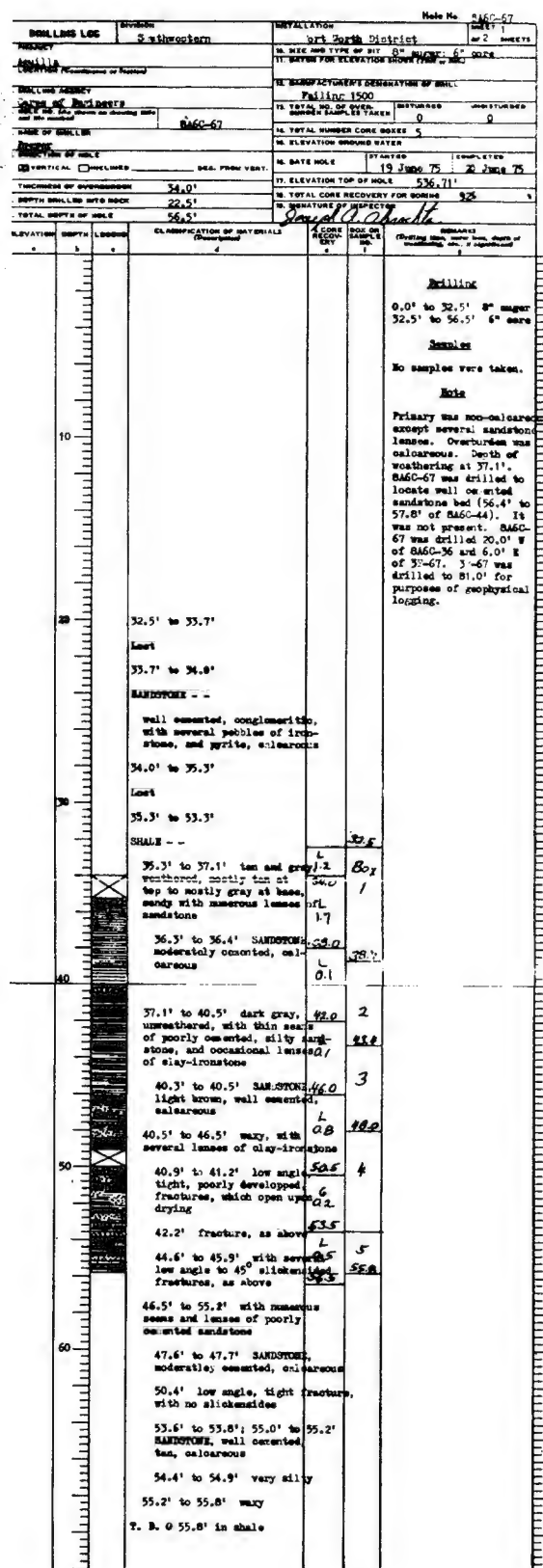
RECORD DRAWING-WORK AS BUILT

SYM	NO	ACTION	DATE	DESCRIPTION OF ACTION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS				
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS			
DRAWN BY:	EMBANKMENT AND SPILLWAY			
CHECKED BY:	LOGS OF BORINGS 36A-62, 8A3F-63, 64 & 65			
SUBMITTED BY:	INV. NO. DACW63-80-B-0085 DATED: AUG 1980			
ENGINEER:	CONTR. NO. DACW63-80-B-0085			
DRAWING NUMBER		SHEET NO.		131
B-26 OF				

[illegible]

Note No. _____

DRILLING LOG		2. Ethiopian		3. Ethiopia		4. North District	
1. PROJECT		2. LOCATION		3. DRILLING METHOD		4. NAME AND TYPE OF UNIT	
5. NAME OF DRILLER		6. NAME OF LOGGERS		7. NAME OF SURVEYOR		8. DATE AND TIME OF REVALUATION	
9. NAME OF DRILLER		10. NAME OF LOGGERS		11. NAME OF SURVEYOR		12. DATE AND TIME OF REVALUATION	
13. NAME OF DRILLER		14. NAME OF LOGGERS		15. NAME OF SURVEYOR		16. DATE AND TIME OF REVALUATION	
17. NAME OF DRILLER		18. NAME OF LOGGERS		19. NAME OF SURVEYOR		20. DATE AND TIME OF REVALUATION	
21. NAME OF DRILLER		22. NAME OF LOGGERS		23. NAME OF SURVEYOR		24. DATE AND TIME OF REVALUATION	
25. NAME OF DRILLER		26. NAME OF LOGGERS		27. NAME OF SURVEYOR		28. DATE AND TIME OF REVALUATION	
29. NAME OF DRILLER		30. NAME OF LOGGERS		31. NAME OF SURVEYOR		32. DATE AND TIME OF REVALUATION	
33. NAME OF DRILLER		34. NAME OF LOGGERS		35. NAME OF SURVEYOR		36. DATE AND TIME OF REVALUATION	
37. NAME OF DRILLER		38. NAME OF LOGGERS		39. NAME OF SURVEYOR		40. DATE AND TIME OF REVALUATION	
41. NAME OF DRILLER		42. NAME OF LOGGERS		43. NAME OF SURVEYOR		44. DATE AND TIME OF REVALUATION	
45. NAME OF DRILLER		46. NAME OF LOGGERS		47. NAME OF SURVEYOR		48. DATE AND TIME OF REVALUATION	
49. NAME OF DRILLER		50. NAME OF LOGGERS		51. NAME OF SURVEYOR		52. DATE AND TIME OF REVALUATION	
53. NAME OF DRILLER		54. NAME OF LOGGERS		55. NAME OF SURVEYOR		56. DATE AND TIME OF REVALUATION	
57. NAME OF DRILLER		58. NAME OF LOGGERS		59. NAME OF SURVEYOR		60. DATE AND TIME OF REVALUATION	
61. NAME OF DRILLER		62. NAME OF LOGGERS		63. NAME OF SURVEYOR		64. DATE AND TIME OF REVALUATION	
65. NAME OF DRILLER		66. NAME OF LOGGERS		67. NAME OF SURVEYOR		68. DATE AND TIME OF REVALUATION	
69. NAME OF DRILLER		70. NAME OF LOGGERS		71. NAME OF SURVEYOR		72. DATE AND TIME OF REVALUATION	
73. NAME OF DRILLER		74. NAME OF LOGGERS		75. NAME OF SURVEYOR		76. DATE AND TIME OF REVALUATION	
77. NAME OF DRILLER		78. NAME OF LOGGERS		79. NAME OF SURVEYOR		80. DATE AND TIME OF REVALUATION	
81. NAME OF DRILLER		82. NAME OF LOGGERS		83. NAME OF SURVEYOR		84. DATE AND TIME OF REVALUATION	
85. NAME OF DRILLER		86. NAME OF LOGGERS		87. NAME OF SURVEYOR		88. DATE AND TIME OF REVALUATION	
89. NAME OF DRILLER		90. NAME OF LOGGERS		91. NAME OF SURVEYOR		92. DATE AND TIME OF REVALUATION	
93. NAME OF DRILLER		94. NAME OF LOGGERS		95. NAME OF SURVEYOR		96. DATE AND TIME OF REVALUATION	
97. NAME OF DRILLER		98. NAME OF LOGGERS		99. NAME OF SURVEYOR		100. DATE AND TIME OF REVALUATION	
101. NAME OF DRILLER		102. NAME OF LOGGERS		103. NAME OF SURVEYOR		104. DATE AND TIME OF REVALUATION	
105. NAME OF DRILLER		106. NAME OF LOGGERS		107. NAME OF SURVEYOR		108. DATE AND TIME OF REVALUATION	
109. NAME OF DRILLER		110. NAME OF LOGGERS		111. NAME OF SURVEYOR		112. DATE AND TIME OF REVALUATION	
113. NAME OF DRILLER		114. NAME OF LOGGERS		115. NAME OF SURVEYOR		116. DATE AND TIME OF REVALUATION	
117. NAME OF DRILLER		118. NAME OF LOGGERS		119. NAME OF SURVEYOR		120. DATE AND TIME OF REVALUATION	
121. NAME OF DRILLER		122. NAME OF LOGGERS		123. NAME OF SURVEYOR		124. DATE AND TIME OF REVALUATION	
125. NAME OF DRILLER		126. NAME OF LOGGERS		127. NAME OF SURVEYOR		128. DATE AND TIME OF REVALUATION	
129. NAME OF DRILLER		130. NAME OF LOGGERS		131. NAME OF SURVEYOR		132. DATE AND TIME OF REVALUATION	
133. NAME OF DRILLER		134. NAME OF LOGGERS		135. NAME OF SURVEYOR		136. DATE AND TIME OF REVALUATION	
137. NAME OF DRILLER		138. NAME OF LOGGERS		139. NAME OF SURVEYOR		140. DATE AND TIME OF REVALUATION	
141. NAME OF DRILLER		142. NAME OF LOGGERS		143. NAME OF SURVEYOR		144. DATE AND TIME OF REVALUATION	
145. NAME OF DRILLER		146. NAME OF LOGGERS		147. NAME OF SURVEYOR		148. DATE AND TIME OF REVALUATION	
149. NAME OF DRILLER		150. NAME OF LOGGERS		151. NAME OF SURVEYOR		152. DATE AND TIME OF REVALUATION	
153. NAME OF DRILLER		154. NAME OF LOGGERS		155. NAME OF SURVEYOR		156. DATE AND TIME OF REVALUATION	
157. NAME OF DRILLER		158. NAME OF LOGGERS		159. NAME OF SURVEYOR		160. DATE AND TIME OF REVALUATION	
161. NAME OF DRILLER		162. NAME OF LOGGERS		163. NAME OF SURVEYOR		164. DATE AND TIME OF REVALUATION	
165. NAME OF DRILLER		166. NAME OF LOGGERS		167. NAME OF SURVEYOR		168. DATE AND TIME OF REVALUATION	
169. NAME OF DRILLER		170. NAME OF LOGGERS		171. NAME OF SURVEYOR		172. DATE AND TIME OF REVALUATION	
173. NAME OF DRILLER		174. NAME OF LOGGERS		175. NAME OF SURVEYOR		176. DATE AND TIME OF REVALUATION	
177. NAME OF DRILLER		178. NAME OF LOGGERS		179. NAME OF SURVEYOR		180. DATE AND TIME OF REVALUATION	
181. NAME OF DRILLER		182. NAME OF LOGGERS		183. NAME OF SURVEYOR		184. DATE AND TIME OF REVALUATION	
185. NAME OF DRILLER		186. NAME OF LOGGERS		187. NAME OF SURVEYOR		188. DATE AND TIME OF REVALUATION	
189. NAME OF DRILLER		190. NAME OF LOGGERS		191. NAME OF SURVEYOR		192. DATE AND TIME OF REVALUATION	
193. NAME OF DRILLER		194. NAME OF LOGGERS		195. NAME OF SURVEYOR		196. DATE AND TIME OF REVALUATION	
197. NAME OF DRILLER		198. NAME OF LOGGERS		199. NAME OF SURVEYOR		200. DATE AND TIME OF REVALUATION	
201. NAME OF DRILLER		202. NAME OF LOGGERS		203. NAME OF SURVEYOR		204. DATE AND TIME OF REVALUATION	
205. NAME OF DRILLER		206. NAME OF LOGGERS		207. NAME OF SURVEYOR		208. DATE AND TIME OF REVALUATION	
209. NAME OF DRILLER		210. NAME OF LOGGERS		211. NAME OF SURVEYOR		212. DATE AND TIME OF REVALUATION	
213. NAME OF DRILLER		214. NAME OF LOGGERS		215. NAME OF SURVEYOR		216. DATE AND TIME OF REVALUATION	
217. NAME OF DRILLER		218. NAME OF LOGGERS		219. NAME OF SURVEYOR		220. DATE AND TIME OF REVALUATION	
221. NAME OF DRILLER		222. NAME OF LOGGERS		223. NAME OF SURVEYOR		224. DATE AND TIME OF REVALUATION	
225. NAME OF DRILLER		226. NAME OF LOGGERS		227. NAME OF SURVEYOR		228. DATE AND TIME OF REVALUATION	
229. NAME OF DRILLER		230. NAME OF LOGGERS		231. NAME OF SURVEYOR		232. DATE AND TIME OF REVALUATION	
233. NAME OF DRILLER		234. NAME OF LOGGERS		235. NAME OF SURVEYOR		236. DATE AND TIME OF REVALUATION	
237. NAME OF DRILLER		238. NAME OF LOGGERS		239. NAME OF SURVEYOR		240. DATE AND TIME OF REVALUATION	
241. NAME OF DRILLER		242. NAME OF LOGGERS		243. NAME OF SURVEYOR		244. DATE AND TIME OF REVALUATION	
245. NAME OF DRILLER		246. NAME OF LOGGERS		247. NAME OF SURVEYOR		248. DATE AND TIME OF REVALUATION	
249. NAME OF DRILLER		250. NAME OF LOGGERS		251. NAME OF SURVEYOR		252. DATE AND TIME OF REVALUATION	
253. NAME OF DRILLER		254. NAME OF LOGGERS		255. NAME OF SURVEYOR		256. DATE AND TIME OF REVALUATION	
257. NAME OF DRILLER		258. NAME OF LOGGERS		259. NAME OF SURVEYOR		260. DATE AND TIME OF REVALUATION	
261. NAME OF DRILLER		262. NAME OF LOGGERS		263. NAME OF SURVEYOR		264. DATE AND TIME OF REVALUATION	
265. NAME OF DRILLER		266. NAME OF LOGGERS		267. NAME OF SURVEYOR		268. DATE AND TIME OF REVALUATION	
269. NAME OF DRILLER		270. NAME OF LOGGERS		271. NAME OF SURVEYOR		272. DATE AND TIME OF REVALUATION	
273. NAME OF DRILLER		274. NAME OF LOGGERS		275. NAME OF SURVEYOR		276. DATE AND TIME OF REVALUATION	
277. NAME OF DRILLER		278. NAME OF LOGGERS		279. NAME OF SURVEYOR		280. DATE AND TIME OF REVALUATION	
281. NAME OF DRILLER		282. NAME OF LOGGERS		283. NAME OF SURVEYOR		284. DATE AND TIME OF REVALUATION	
285. NAME OF DRILLER		286. NAME OF LOGGERS		287. NAME OF SURVEYOR		288. DATE AND TIME OF REVALUATION	
289. NAME OF DRILLER		290. NAME OF LOGGERS		291. NAME OF SURVEYOR		292. DATE AND TIME OF REVALUATION	
293. NAME OF DRILLER		294. NAME OF LOGGERS		295. NAME OF SURVEYOR		296. DATE AND TIME OF REVALUATION	
297. NAME OF DRILLER		298. NAME OF LOGGERS		299. NAME OF SURVEYOR		300. DATE AND TIME OF REVALUATION	
301. NAME OF DRILLER		302. NAME OF LOGGERS		303. NAME OF SURVEYOR		304. DATE AND TIME OF REVALUATION	
305. NAME OF DRILLER		306. NAME OF LOGGERS		307. NAME OF SURVEYOR		308. DATE AND TIME OF REVALUATION	
309. NAME OF DRILLER		310. NAME OF LOGGERS		311. NAME OF SURVEYOR		312. DATE AND TIME OF REVALUATION	
313. NAME OF DRILLER		314. NAME OF LOGGERS		315. NAME OF SURVEYOR		316. DATE AND TIME OF REVALUATION	
317. NAME OF DRILLER		318. NAME OF LOGGERS		319. NAME OF SURVEYOR		320. DATE AND TIME OF REVALUATION	
321. NAME OF DRILLER		322. NAME OF LOGGERS		323. NAME OF SURVEYOR		324. DATE AND TIME OF REVALUATION	
325. NAME OF DRILLER		326. NAME OF LOGGERS		327. NAME OF SURVEYOR		328. DATE AND TIME OF REVALUATION	
329. NAME OF DRILLER		330. NAME OF LOGGERS		331. NAME OF SURVEYOR		332. DATE AND TIME OF REVALUATION	
333. NAME OF DRILLER		334. NAME OF LOGGERS		335. NAME OF SURVEYOR		336. DATE AND TIME OF REVALUATION	
337. NAME OF DRILLER		338. NAME OF LOGGERS		339. NAME OF SURVEYOR		340. DATE AND TIME OF REVALUATION	
341. NAME OF DRILLER		342. NAME OF LOGGERS		343. NAME OF SURVEYOR		344. DATE AND TIME OF REVALUATION	
345. NAME OF DRILLER		346. NAME OF LOGGERS		347. NAME OF SURVEYOR		348. DATE AND TIME OF REVALUATION	
349. NAME OF DRILLER		350. NAME OF LOGGERS		351. NAME OF SURVEYOR		352. DATE AND TIME OF REVALUATION	
353. NAME OF DRILLER		354. NAME OF LOGGERS		355. NAME OF SURVEYOR		356. DATE AND TIME OF REVALUATION	
357. NAME OF DRILLER		358. NAME OF LOGGERS		359. NAME OF SURVEYOR		360. DATE AND TIME OF REVALUATION	
361. NAME OF DRILLER		362. NAME OF LOGGERS		363. NAME OF SURVEYOR		364. DATE AND TIME OF REVALUATION	
365. NAME OF DRILLER		366. NAME OF LOGGERS		367. NAME OF SURVEYOR		368. DATE AND TIME OF REVALUATION	
369. NAME OF DRILLER		370. NAME OF LOGGERS		371. NAME OF SURVEYOR		372. DATE AND TIME OF REVALUATION	
373. NAME OF DRILLER		374. NAME OF LOGGERS		375. NAME OF SURVEYOR		376. DATE AND TIME OF REVALUATION	
377. NAME OF DRILLER		378. NAME OF LOGGERS		379. NAME OF SURVEYOR		380. DATE AND TIME OF REVALUATION	
381. NAME OF DRILLER		382. NAME OF LOGGERS		383. NAME OF SURVEYOR		384. DATE AND TIME OF REVALUATION	
385. NAME OF DRILLER		386. NAME OF LOGGERS		387. NAME OF SURVEYOR		388. DATE AND TIME OF REVALUATION	
389. NAME OF DRILLER		390. NAME OF LOGGERS		391. NAME OF SURVEYOR		392. DATE AND TIME OF REVALUATION	
393. NAME OF DRILLER		394. NAME OF LOGGERS		395. NAME OF SURVEYOR		396. DATE AND TIME OF REVALUATION	
397. NAME OF DRILLER		398. NAME OF LOGGERS		399. NAME OF SURVEYOR		400. DATE AND TIME OF REVALUATION	
401. NAME OF DRILLER		402. NAME OF LOGGERS		403. NAME OF SURVEYOR		404. DATE AND TIME OF REVALUATION	
405. NAME OF DRILLER		406. NAME OF LOGGERS		407. NAME OF SURVEYOR		408. DATE AND TIME OF REVALUATION	
409. NAME OF DRILLER		410. NAME OF LOGGERS		411. NAME OF SURVEYOR		412. DATE AND TIME OF REVALUATION	
413. NAME OF DRILLER		414. NAME OF LOGGERS		415. NAME OF SURVEYOR		416. DATE AND TIME OF REVALUATION	
417. NAME OF DRILLER		418. NAME OF LOGGERS		419. NAME OF SURVEYOR		420. DATE AND TIME OF REVALUATION	
421. NAME OF DRILLER		422. NAME OF LOGGERS		423. NAME OF SURVEYOR		424. DATE AND TIME OF REVALUATION	
425. NAME OF DRILLER		426. NAME OF LOGGERS		427. NAME OF SURVEYOR		428. DATE AND TIME OF REVALUATION	
429. NAME OF DRILLER		430. NAME OF LOGGERS		431. NAME OF SURVEYOR		432. DATE AND TIME OF REVALUATION	
433. NAME OF DRILLER		434. NAME OF LOGGERS		435. NAME OF SURVEYOR		436. DATE AND TIME OF REVALUATION	
437. NAME OF DRILLER		438. NAME OF LOGGERS		439. NAME OF SURVEYOR		440. DATE AND TIME OF REVALUATION	
441. NAME OF DRILLER		442. NAME OF LOGGERS		443. NAME OF SURVEYOR		444. DATE AND TIME OF REVALUATION	
445. NAME OF DRILLER		446. NAME OF LOGGERS		447. NAME OF SURVEYOR		448. DATE AND TIME OF REVALUATION	
449. NAME OF DRILLER		450. NAME OF LOGGERS		451. NAME OF SURVEYOR		452. DATE AND TIME OF REVALUATION	
453. NAME OF DRILLER		454. NAME OF LOGGERS		455. NAME OF SURVEYOR		456. DATE AND TIME OF REVALUATION	
457. NAME OF DRILLER		458. NAME OF LOGGERS		459. NAME OF SURVEYOR		460. DATE AND TIME OF REVALUATION	
461. NAME OF DRILLER		462. NAME OF LOGGERS		463. NAME OF SURVEYOR		464. DATE AND TIME OF REVALUATION	
465. NAME OF DRILLER		466. NAME OF LOGGERS		467. NAME OF SURVEYOR		468. DATE AND TIME OF REVALUATION	
469. NAME OF DRILLER		470. NAME OF LOGGERS		471. NAME OF SURVEYOR		472. DATE AND TIME OF REVALUATION	
473. NAME OF DRILLER		474. NAME OF LOGGERS		475. NAME OF SURVEYOR		476. DATE AND TIME OF REVALUATION	
477. NAME OF DRILLER		478. NAME OF LOGGERS		479. NAME OF SURVEYOR		480. DATE AND TIME OF REVALUATION	
481. NAME OF DRILLER		482. NAME OF LOGGERS		483. NAME OF SURVEYOR		484. DATE AND TIME OF REVALUATION	
485. NAME OF DRILLER		486. NAME OF LOGGERS		487. NAME OF SURVEYOR		488. DATE AND TIME OF REVALUATION	
489. NAME OF DRILLER		490. NAME OF LOGGERS		491. NAME OF SURVEYOR		492. DATE AND TIME OF REVALUATION	
493. NAME OF DRILLER		494. NAME OF LOGGERS		495. NAME OF SURVEYOR		496. DATE AND TIME OF REVALUATION	
497. NAME OF DRILLER		498. NAME OF LOGGERS		499. NAME OF SURVEYOR		500. DATE AND TIME OF REVALUATION	
501. NAME OF DRILLER		502. NAME OF LOGGERS		503. NAME OF SURVEYOR		504. DATE AND TIME OF REVALUATION	
505. NAME OF DRILLER		506. NAME OF LOGGERS		507. NAME OF SURVEYOR		508. DATE AND TIME OF REVALUATION	
509. NAME OF DRILLER		510. NAME OF LOGGERS		511. NAME OF SURVEYOR		512. DATE AND TIME OF REVALUATION	
513. NAME OF DRILLER		514. NAME OF LOGGERS		515. NAME OF SURVEYOR		516. DATE AND TIME OF REVALUATION	
517. NAME OF DRILLER		518. NAME OF LOGGERS		519. NAME OF SURVEYOR		520. DATE AND TIME OF REVALUATION	
521. NAME OF DRILLER		522. NAME OF LOGGERS		523. NAME OF SURVEYOR		524. DATE AND TIME OF REVALUATION	
525. NAME OF DRILLER		526. NAME OF LOGGERS		527. NAME OF SURVEYOR		528. DATE AND TIME OF REVALUATION	
529. NAME OF DRILLER		530. NAME OF LOGGERS		531. NAME OF SURVEYOR		532. DATE AND TIME OF REVALUATION	
533. NAME OF DRILLER		534. NAME OF LOGGERS		535. NAME OF SURVEYOR		536. DATE AND TIME OF REVALUATION	
537. NAME OF DRILLER		538. NAME OF LOGGERS		539. NAME OF SURVEYOR		540. DATE AND TIME OF REVALUATION	
541. NAME OF DRILLER		542. NAME OF LOGGERS		543. NAME OF SURVEYOR		544. DATE AND TIME OF REVALUATION	
545. NAME OF DRILLER		546. NAME OF LOGGERS		547. NAME OF SURVEYOR		548. DATE AND TIME OF REVALUATION	
549. NAME OF DRILLER		550. NAME OF LOGGERS		551. NAME OF SURVEYOR		552. DATE AND TIME OF REVALUATION	
553. NAME OF DRILLER		554. NAME OF LOGGERS		555. NAME OF SURVEYOR		556. DATE AND TIME OF REVALUATION	
557. NAME OF DRILLER		558. NAME OF LOGGERS		559. NAME OF SURVEYOR		560. DATE AND TIME OF REVALUATION	
561. NAME OF DRILLER		562. NAME OF LOGGERS		563. NAME OF SURVEYOR		564. DATE AND TIME OF REVALUATION	
565. NAME OF DRILLER		566. NAME OF LOGGERS		567. NAME OF SURVEYOR		568. DATE AND TIME OF REVALUATION	
569. NAME OF DRILLER		570. NAME OF LOGGERS		571. NAME OF SURVEYOR		572. DATE AND TIME OF REVALUATION	
573. NAME OF DRILLER		574. NAME OF LOGGERS		575. NAME OF SURVEYOR		576. DATE AND TIME OF REVALUATION	
577. NAME OF DRILLER		578. NAME OF LOGGERS		579. NAME OF SURVEYOR		580. DATE AND TIME OF REVALUATION	
581. NAME OF DRILLER		582. NAME OF LOGGERS		583. NAME OF SURVEYOR		584. DATE AND TIME OF REVALUATION	
585. NAME OF DRILLER		586. NAME OF LOGGERS		587. NAME OF SURVEYOR		588. DATE AND TIME OF REVALUATION	
589. NAME OF DRILLER		590. NAME OF LOGGERS		591. NAME OF SURVEYOR		592. DATE AND TIME OF REVALUATION	
593. NAME OF DRILLER		594. NAME OF LOGGERS		595. NAME OF SURVEYOR		596. DATE AND TIME OF REVALUATION	
597. NAME OF DRILLER		598. NAME OF LOGGERS		599. NAME OF SURVEYOR		600. DATE AND TIME OF REVALUATION	
601. NAME OF DRILLER		602. NAME OF LOGGERS		603. NAME OF SURVEYOR		604. DATE AND TIME OF REVALUATION	
605. NAME OF DRILLER		606. NAME OF LOGGERS		607. NAME OF SURVEYOR		608. DATE AND TIME OF REVALUATION	
609. NAME OF DRILLER		610. NAME OF LOGGERS		611. NAME OF SURVEYOR		612. DATE AND TIME OF REVALUATION	
613. NAME OF DRILLER		614. NAME OF LOGGERS		615. NAME OF SURVEYOR		616. DATE AND TIME OF REVALUATION	
617. NAME OF DRILLER		618. NAME OF LOGGERS		619. NAME OF SURVEYOR		620. DATE AND TIME OF REVALUATION	
621. NAME OF DRILLER		622. NAME OF LOGGERS		623. NAME OF SURVEYOR		624. DATE AND TIME OF REVALUATION	
625. NAME OF DRILLER		626. NAME OF LOGGERS		627. NAME OF SURVEYOR		628. DATE AND TIME OF REVALUATION	
629. NAME OF DRILLER		630. NAME OF LOGGERS		631. NAME OF SURVEYOR		632. DATE AND TIME OF REVALUATION	
633. NAME OF DRILLER		634. NAME OF LOGGERS		635. NAME OF SURVEYOR		636. DATE AND TIME OF REVALUATION	
637. NAME OF DRILLER		638. NAME OF LOGGERS		639. NAME OF SURVEYOR		640. DATE AND TIME OF REVALUATION	
641. NAME OF DRILLER		642. NAME OF LOGGERS		643. NAME OF SURVEYOR		644. DATE AND TIME OF REVALUATION	
645. NAME OF DRILLER		646. NAME OF LOGGERS		647. NAME OF SURVEYOR		648. DATE AND TIME OF REVALUATION	
649. NAME OF DRILLER		650. NAME OF LOGGERS		651. NAME OF SURVEYOR		652. DATE AND TIME OF REVALUATION	
65							



RECORD DRAWING-W

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SUBMITTED BY:	
ENGINEER:	

Hole No. 10-10	
LOCATION Park North District	SHEET OF 1 SHEET
DATE AND TYPE OF TEST 10/10/66	TESTER J. H. H. H.
MANUFACTURE'S DESIGNATION OF DRILL Falling 1500	
DRILL NO. OF DRILL 0	DRILL NO. OF DRILL 0
DRILL NO. OF DRILL 0	DRILL NO. OF DRILL 0
DRILL NO. OF DRILL 0	DRILL NO. OF DRILL 0
DATE MOLE 26 Apr 74	DATE MOLE 26 Apr 74
LEVATION TOP OF MOLE 510.8 ±	LEVATION TOP OF MOLE 510.8 ±
TOTAL CORE RECOVERY FOR BORING 0	
SIGNATURE OF INSPECTOR J. H. H. H.	
1. CORE RECORD NO.	2. REMARKS (Drilling time, water level, depth, etc., if significant)

Drilling
0.0 to 3.7 8" auger
3.7 to 70.0 4" fish-
tail

Note

Cutting return from
hard zones at 53.8
and 59.5 was very poor.
Interpretation is based
upon drill action and
not on cuttings. The
zone at 59.5 was much
harder than the zone
at 53.8.

RECORD DRAWING-WORK AS BUILT

SYMBOL NO.	ACTION	DATE	DESCRIPTION OF REVISION
U.S. ARMY ENGINEER DISTRICT, FORT WORTH CORPS OF ENGINEERS FORT WORTH, TEXAS			
DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS		
DRAWN BY:	EMBANKMENT AND SPILLWAY		
CHECKED BY:	LOGS OF BORINGS 8A6C-66, 67 AND 3F-31		
SUBMITTED BY:	INV. NO. DACW63-80-B-0086	DATED: AUG. 1960	SEQUENCE NO.
ENGINEER:	CONTR. NO. DACW63-81-C-0035	DRAWING NUMBER	SHEET NO. 132
		B-27 of	

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 68

BAGC-250

Hole No. 241C-250

DRILLING LOG		DIVISION		REMARKS	
PROJECT: Aquilla Lake		S.W.D.		Hole No. 241C-250	
LOCATION: S.W. 1/4 Sec. 10, T. 145 N., R. 145 W.		S.W.D.		Hole No. 241C-250	
DRILLING METHOD: Core		S.W.D.		Hole No. 241C-250	
HOLE NO. 241C-250		S.W.D.		Hole No. 241C-250	
NAME OF DRILLER: S.W.D.		S.W.D.		Hole No. 241C-250	
DIRECTION OF HOLE: Vertical		S.W.D.		Hole No. 241C-250	
THICKNESS OF OVERBURDEN: 3.1		S.W.D.		Hole No. 241C-250	
DEPTH DRILLED INTO ROCK: 39.3		S.W.D.		Hole No. 241C-250	
TOTAL DEPTH OF HOLE: 41.4		S.W.D.		Hole No. 241C-250	
CLASSIFICATION OF MATERIALS		S.W.D.		Hole No. 241C-250	
0.0 to 7.5		S.W.D.		Hole No. 241C-250	
CLAY		S.W.D.		Hole No. 241C-250	
0.0 to 3.1 - high plasticity, stiff, moist, black to brown, calc. sandy and gravelly.		S.W.D.		Hole No. 241C-250	
3.1 to 7.5 - med. plast. stiff, moist, yellowish brown with some red after 6', calc. sil. sandy, liney.		S.W.D.		Hole No. 241C-250	
7.5 to 10.9		S.W.D.		Hole No. 241C-250	
SHALE - highly weathered to a stiff clay consistency, yell. br. and gray, calc. sandy and silty some (very thin).		S.W.D.		Hole No. 241C-250	
10.9 to 11.4		S.W.D.		Hole No. 241C-250	
ARISTARCHUS LIMESTONE - hard, white, calc. Eagle Ford Group		S.W.D.		Hole No. 241C-250	
11.4 to 21.0		S.W.D.		Hole No. 241C-250	
SHALE and LIMESTONE - This section rockbit - calc. made from rotary action.		S.W.D.		Hole No. 241C-250	
11.4 - 12' - shale.		S.W.D.		Hole No. 241C-250	
12' - 12.7 - shale w/ hard s.s. 13.3'.		S.W.D.		Hole No. 241C-250	
21.0 to 27.3		S.W.D.		Hole No. 241C-250	
SHALE - weathered, mod soft, dark gray and yell. br., some yellow, non calc, pale brown, not hard s.s. sand (f.T. 0.1" thick) so. throat section.		S.W.D.		Hole No. 241C-250	
22.3 to 36.2		S.W.D.		Hole No. 241C-250	
SHALE - weathered till 28.4', fine grained, mod. hard, mod. friable, pale brown, non calc, shaley.		S.W.D.		Hole No. 241C-250	
22.3 to 36.2		S.W.D.		Hole No. 241C-250	
SHALE (cont)		S.W.D.		Hole No. 241C-250	
Shale from 23.5 to 24.0' and sandy within.		S.W.D.		Hole No. 241C-250	
Shale from 24.3 to 24.4'.		S.W.D.		Hole No. 241C-250	
Shale from 24.6 to 25.2'.		S.W.D.		Hole No. 241C-250	
Very shaley zone from 27.7 to 35.2'.		S.W.D.		Hole No. 241C-250	
36.2 to 37.6		S.W.D.		Hole No. 241C-250	
SHALE - unweathered, mod. soft, dark gray, non calc, thin sandstone seams and lenses throat.		S.W.D.		Hole No. 241C-250	
37.6 to 40.6		S.W.D.		Hole No. 241C-250	
SANDSTONE - fine grained, mod soft to mod hard, mod. cemented, pale brown and gray, non calc.		S.W.D.		Hole No. 241C-250	
Shaley from 37.6 to 38.0'.		S.W.D.		Hole No. 241C-250	
38 to 38.6 - no shale.		S.W.D.		Hole No. 241C-250	
Both above mod. hard zones.		S.W.D.		Hole No. 241C-250	
38.6 to 39.3 - v. shaley.		S.W.D.		Hole No. 241C-250	
39.3 to 39.7 - shale (sandy).		S.W.D.		Hole No. 241C-250	
39.7 to 40.6 - sh. shaley.		S.W.D.		Hole No. 241C-250	
Above three zones are mod. soft and sand is friable.		S.W.D.		Hole No. 241C-250	

ENC FORM 1036 PREVIOUS EDITIONS ARE OBSOLETE
MAR 71 (TRANSLOCENT)

PROJECT

HOLE NO. 241C-250

BAGC-251

Hole No. 241C-251

DRILLING LOG		DIVISION		REMARKS	
PROJECT: Aquilla Lake		S.W.D.		Hole No. 241C-251	
LOCATION: S.W. 1/4 Sec. 10, T. 145 N., R. 145 W.		S.W.D.		Hole No. 241C-251	
DRILLING METHOD: Core		S.W.D.		Hole No. 241C-251	
HOLE NO. 241C-251		S.W.D.		Hole No. 241C-251	
NAME OF DRILLER: S.W.D.		S.W.D.		Hole No. 241C-251	
DIRECTION OF HOLE: Vertical		S.W.D.		Hole No. 241C-251	
THICKNESS OF OVERBURDEN: 3.3		S.W.D.		Hole No. 241C-251	
DEPTH DRILLED INTO ROCK: 32.9		S.W.D.		Hole No. 241C-251	
TOTAL DEPTH OF HOLE: 43.2		S.W.D.		Hole No. 241C-251	
CLASSIFICATION OF MATERIALS		S.W.D.		Hole No. 241C-251	
0.0 to 4.9		S.W.D.		Hole No. 241C-251	
CLAY		S.W.D.		Hole No. 241C-251	
0.0 to 0.2 - high plasticity, mod stiff, moist, black, calc. sandy and gravelly.		S.W.D.		Hole No. 241C-251	
0.2 to 4.9 - high/mod plasticity, stiff, moist, calc. yellowish brown, liney, sil. sandy, gravelly at 2.5' (0.2" thick).		S.W.D.		Hole No. 241C-251	
4.9 to 5.3		S.W.D.		Hole No. 241C-251	
SAND - fine to med. grained, moist, strong brown, calc. gravelly and clayey.		S.W.D.		Hole No. 241C-251	
5.3 to 14.3 - Eagle Ford Group		S.W.D.		Hole No. 241C-251	
SHALE - highly weathered to a stiff clay consistency, very little shale structure, except from 6.4 to 7.0 - where structure is apparent, yell. br., gray, and some red, calc. sandy and silty, exp. 2.1' to 11'.		S.W.D.		Hole No. 241C-251	
14.3 to 14.8		S.W.D.		Hole No. 241C-251	
ARISTARCHUS LIMESTONE - hard, white, calc. massive, well cemented, Eagle Ford Group		S.W.D.		Hole No. 241C-251	
14.8 to 15.7		S.W.D.		Hole No. 241C-251	
SHALE - weathered, mod. soft (72 class), gray and yell. br., calc. scattered thin sand seams.		S.W.D.		Hole No. 241C-251	
15.7 to 18.3		S.W.D.		Hole No. 241C-251	
SANDSTONE		S.W.D.		Hole No. 241C-251	
15.7 to 15.6 - weathered, fine grained, mod soft, gray, sil. calc. poorly to mod. cemented, friable, limonitic at top of section.		S.W.D.		Hole No. 241C-251	
(cont)		S.W.D.		Hole No. 241C-251	
15.7 to 18.3		S.W.D.		Hole No. 241C-251	
SANDSTONE (cont)		S.W.D.		Hole No. 241C-251	
16.6 to 17.0 - weathered, fine, hard, well cemented, light pale brown, sil. calc.		S.W.D.		Hole No. 241C-251	
17.0 to 18.3 - fine, poorly cemented and v. friable (much washed out by drilling circulation), gray, sil. calc. sil. shaley.		S.W.D.		Hole No. 241C-251	
18.3 to 19.3		S.W.D.		Hole No. 241C-251	
SHALE		S.W.D.		Hole No. 241C-251	
18.3 to 18.9 - weathered, soft (72 class), yell. br. and gray and red, sil. calc. sandy.		S.W.D.		Hole No. 241C-251	
18.9 to 19.3 - as above except v. sandy.		S.W.D.		Hole No. 241C-251	
19.3 to 21.5		S.W.D.		Hole No. 241C-251	
SANDSTONE - weathered, fine, mod hard and mod cemented, pale brown, non calc. jointed, local dip (1.7, 10') @ 20.5 to 20.7'.		S.W.D.		Hole No. 241C-251	
Soft shale seams (pent. tests of 1.75 to 2.75) @ 20.5 & 21.1 - both 0.1" thick.		S.W.D.		Hole No. 241C-251	
21.5 to 28.1		S.W.D.		Hole No. 241C-251	
SHALE		S.W.D.		Hole No. 241C-251	
21.5 to 25.8 - weathered, mod soft, gray and strong brown, non calc. limonitic, s.s. seams (mod hard and pale brown) @ 21.5 & again from 23.5 to 23.8'.		S.W.D.		Hole No. 241C-251	
25.8 to 28.1 - weather stained fractures till 24.3, then unweathered, dark gray, non calc. mod soft, so. thin sand seams, v. pyritic from 25.0 to 25.1 and @ 26.2. Mod. hard s.s. from 26.1 to 26.2 and 27.1 to 27.3'.		S.W.D.		Hole No. 241C-251	

Base of sand dip of 12'.

Shale beneath shows no dip.

The above two came out in massive core.

Shale exhibits up to 7' from 22.5'.

BELLING LOG		DIVISION		SHEET	
AGUILA Lake		SWD		4. North	
LOCATION (Name of Station)		DATE AND TIME OF DAY		SHEET 3	
AGUILA Lake		1500		OF 3 SHEETS	
NAME OF DRILLER		NAME OF SUPERVISOR		NAME OF DRILLER	
BAGC-251		S. C. DODSON		BAGC-251	
DIRECTION OF HOLE		DATE HOLE		DIRECTION OF HOLE	
VERTICAL		16 June 79		VERTICAL	
THICKNESS OF OVERBURDEN		ELEVATION TOP OF HOLE		THICKNESS OF OVERBURDEN	
5.3		592.16		5.3	
DEPTH DRILLED INTO ROCK		ELEVATION TOP OF HOLE		DEPTH DRILLED INTO ROCK	
43.2		592.16		43.2	
TOTAL DEPTH OF HOLE		ELEVATION TOP OF HOLE		TOTAL DEPTH OF HOLE	
48.5		592.16		48.5	
ELEVATION		DEPTH		LEGEND	
592.16		48.5		CLASSIFICATION OF MATERIALS	
592.16		48.5		CLAY	
592.16		48.5		0.0 to 0.2 - high plasticity, med stiff, moist, black, calc, sandy and gravelly.	
592.16		48.5		0.2 to 4.9 - light/red clay, stiff, moist, calc, yellowish brown, limy, silty, sandy, gravelly at 2.5' (0.2' thick).	
592.16		48.5		4.9 to 5.3 -	
592.16		48.5		SAND - fine to med, grained, moist, strong brown, calc, gravelly and clayey.	
592.16		48.5		5.3 to 14.3 - Sand Ford Pk.	
592.16		48.5		SHALE - highly weathered to a stiff clay consistency, very little shale structure except from 6.4 to 7.0 - where structure is apparent, yell. br., gray, and some red, calc, sandy and silty, (sp. 21.1).	
592.16		48.5		14.3 to 14.8	
592.16		48.5		ARMPACKING LIMESTONE - hard, white, calc, massive, well cemented. Same Ford Group	
592.16		48.5		14.8 to 15.7	
592.16		48.5		SHALE - weathered, med. soft (fr. class), gray and yell. br., calc, scattered thin sand seams.	
592.16		48.5		15.7 to 16.3	
592.16		48.5		SHALE -	
592.16		48.5		16.3 to 17.0 - weathered, fine grained, med soft, gray, sil. calc, poorly to med. cemented, friable, limonitic top of section.	
592.16		48.5		17.0 to 18.3 - fine, poorly cemented and v. friable (much washed out by drilling circulation), gray, sil. calc, sil. shale.	
592.16		48.5		18.3 to 19.3	
592.16		48.5		SHALE	
592.16		48.5		19.3 to 20.9 - weathered, soft (fr. class), yell. br. and gray and red, sil. calc sandy.	
592.16		48.5		20.9 to 21.5 - as above except v. sandy.	
592.16		48.5		21.5 to 21.5	
592.16		48.5		SANDSTONE - weathered, fine, med hard and med cemented, pale brown, non calc, jointed, local dip (1.7 to 10°) @ 20.5 to 20.7.	
592.16		48.5		20.7 shale cement (pent. test) of 1.75 to 2.75 @ 20.5 & 21.1 - both 0.1" thick.	
592.16		48.5		21.5 to 26.1	
592.16		48.5		SHALE	
592.16		48.5		21.5 to 23.0 - weathered, med soft, gray and strong brown, non calc, limonitic, s.s. seams (med hard and pale brown) @ 21.5 & again from 23.5 to 23.8.	
592.16		48.5		23.8 to 26.1 - weather stained fractures till 24.3, then unweathered, dark gray, med calc, med soft, s.c. thin sand seams, v. pyritic from 25.0 to 25.1 and @ 26.2. Med. hard s.s. from 26.1 to 26.2 and 27.1 to 27.3.	

BELLING LOG		DIVISION		SHEET	
AGUILA Lake		SWD		4. North	
LOCATION (Name of Station)		DATE AND TIME OF DAY		SHEET 3	
AGUILA Lake		1500		OF 3 SHEETS	
NAME OF DRILLER		NAME OF SUPERVISOR		NAME OF DRILLER	
BAGC-251		S. C. DODSON		BAGC-251	
DIRECTION OF HOLE		DATE HOLE		DIRECTION OF HOLE	
VERTICAL		16 June 79		VERTICAL	
THICKNESS OF OVERBURDEN		ELEVATION TOP OF HOLE		THICKNESS OF OVERBURDEN	
5.3		592.16		5.3	
DEPTH DRILLED INTO ROCK		ELEVATION TOP OF HOLE		DEPTH DRILLED INTO ROCK	
43.2		592.16		43.2	
TOTAL DEPTH OF HOLE		ELEVATION TOP OF HOLE		TOTAL DEPTH OF HOLE	
48.5		592.16		48.5	
ELEVATION		DEPTH		LEGEND	
592.16		48.5		CLASSIFICATION OF MATERIALS	
592.16		48.5		20.1 to 36.3	
592.16		48.5		SANDSTONE - weathered, fine, gray, non calc, med soft to med. hard, poorly to med. cemented, shaly, pyritic @ 30.6.	
592.16		48.5		Mostly poorly cemented and friable after 32.7.	
592.16		48.5		36.3 to 39.6	
592.16		48.5		SHALE - med soft, dark gray, non calc, so. thin gray sandstone/siltstone seams and lenses.	
592.16		48.5		Foot. hard, pale brown silt (ironite ? lenses from 37.0 to 37.1).	
592.16		48.5		39.6 to 43.2	
592.16		48.5		SANDSTONE - fine grained, med hard, pol. cemented, gray, non calc.	
592.16		48.5		Very shaly from 40.2 to 40.6.	
592.16		48.5		Shale zone from 41.1 to 41.4.	
592.16		48.5		Shaly zone from 41.7 to 43.2.	

RECORD DRAWING

U.S. ARMY

DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	

7 8 9 10

Make No. **8A6C-251**

ft. Worth **SHEET 3**
OF 3 SHEETS

NO. TYPE OF BIT
FOR ELEVATION DETERMINATION - SEE

FACTORY'S DESCRIPTION OF DRILL

NO. OF SAMPLES TAKEN ☐ BETWEEN ☐ UNDETERMINED

NUMBER CORE BOXES

WATER BROWN WATER

MOLE ☐ STATED ☐ COMPLETE

LOCATION TOP OF MOLE

CORE RECOVERY FOR BORING

NAME OF INSPECTOR
Robert A. McVay Jr.

SCORE RECORDED BY

REMARKS
(Provide name, number, date, etc. of person who made, if a separate log is maintained.)

PROJECT **8A6C-251**

RECORD DRAWING-WORK AS BUILT

DESIGNED BY:	AQUILLA LAKE AQUILLA CREEK, TEXAS SPILLWAY LOGS OF BORINGS 8A6C-250, 8A6C-251
DRAWN BY:	
CHECKED BY:	
INV. NO. DACW 63-80-B-0085 DATED: AUG. 1980 DRAWING NUMBER 8-20 OF 133	

DATE: **8-20-80**

DNG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.
 MAR 71
 (TRANSLUCENT)

ENG FORM 1836 PREVIOUS EDITIONS ARE OBSOLETE.
MAR 71 (TRANSLUCENT)

Drilling Log Form 104-2

PROJECT: Aquilla Dam

LOCATION: (Continuation of Sheet)

DRILLING AGENCY: USGS

DATE: 10-2

NAME OF DRILLER: [Blank]

DIRECTION OF HOLE: [Blank]

THICKNESS OF OVERBURDEN: [Blank]

DEPTH DRILLED INTO ROCK: [Blank]

TOTAL DEPTH OF HOLE: 5.2

CLASSIFICATION OF MATERIALS:

0.0 - 5.2
CLAY

0.0 - 2.8 - - high plasticity, very stiff, slightly moist, black, non calc.

2.8 - 4.3 - - low plast., very stiff, slightly moist, grayish brown, slightly calc, sandy and silty.

4.3 - 5.2 - - low plast., very stiff, slightly moist, non calc, sandy and silty.

1. see Dry hole.

2. Jars:

A. 0.0 - 2.8

B. 2.8 - 4.3

C. 4.3 - 5.2

SIGNATURE OF INSPECTOR: [Blank]

DATE: 28 March 78

COMPLETED: 28 March 78

REMARKS: (Rating, spec. name, depth of penetration, etc., if requested)

Drilling Log Form 104-3

PROJECT: Aquilla Dam

LOCATION: (Continuation of Sheet)

DRILLING AGENCY: USGS

DATE: 10-3

NAME OF DRILLER: [Blank]

DIRECTION OF HOLE: [Blank]

THICKNESS OF OVERBURDEN: [Blank]

DEPTH DRILLED INTO ROCK: [Blank]

TOTAL DEPTH OF HOLE: 8.3

CLASSIFICATION OF MATERIALS:

0.0 - 6.0
CLAY

0.0 - 1.5 - - mod plasticity, stiff, moist, black non calc, very sandy and silty.

1.5 - 3.1 - - high plast., very stiff, moist, red, non calc.

3.1 - 6.0 - - high to med plast., very stiff, slightly moist, strong brown w/ some brown mixed in, non calc, silty.

6.0 - 8.3
SAND - mostly fine and round, moist, yellow to some colorless lenses, non calc, silty, slightly gravelly.

1. see Dry hole.

2. Jars:

A. 0.0 - 1.5

B. 1.5 - 3.1

C. 3.1 - 6.0

D. 6.0 - 8.3

SIGNATURE OF INSPECTOR: [Blank]

DATE: 28 March 78

COMPLETED: 28 March 78

REMARKS: (Rating, spec. name, depth of penetration, etc., if requested)

Drilling Log Form 104-4

PROJECT: Aquilla Dam

LOCATION: (Continuation of Sheet)

DRILLING AGENCY: USGS

DATE: 10-4

NAME OF DRILLER: [Blank]

DIRECTION OF HOLE: [Blank]

THICKNESS OF OVERBURDEN: [Blank]

DEPTH DRILLED INTO ROCK: [Blank]

TOTAL DEPTH OF HOLE: 9.0

CLASSIFICATION OF MATERIALS:

0.0 - 0.9
SAND - fine and round, dry, brown, non calc.

0.9 - 6.1
CLAY

0.9 - 5.3 - - high plasticity, very stiff, slightly moist, calc, very slightly strong brown oo w/ above after

5.3 - 6.1 - - med plast., very stiff, gray and strong non calc, sandy

6.1 - 9.0
SAND - fine and round, strong brown w/ gray, non calc, silty

SIGNATURE OF INSPECTOR: [Blank]

DATE: 28 March 78

COMPLETED: 28 March 78

REMARKS: (Rating, spec. name, depth of penetration, etc., if requested)

RECORD DRAWING

NOTE: SEE

U.S. ARMY

DESIGNED BY: [Blank]

DRAWN BY: [Blank]

CHECKED BY: [Blank]

SUBMITTED BY: [Blank]

AM-0002 28

U.S. ARMY

TO ACCOMPANY FINAL FOUNDATION

Drilling Log Form 101-3

PROJECT: Ft Worth

DATE: 28 March 78

BY: Robert A. McVey Jr.

1. ***
Dry hole.

2. Jars:
A. 0.0 - 1.5
B. 1.5 - 3.1
C. 3.1 - 6.0
D. 6.0 - 9.0

Drilling Log Form 101-4

PROJECT: Aquilla Lake

DATE: 28 March 78

BY: Robert A. McVey Jr.

1. ***
Dry hole.

2. Jars:
A. 0.0 - 0.9
B. 0.9 - 2.5
C. 2.5 - 5.3
D. 5.3 - 6.1
E. 6.1 - 9.0

0.0 - 0.9
SAND - fine and round, loose, dry, brown, non calc, silty.

0.9 - 6.1
CLAY
0.9 - 5.3 - - high plasticity, very stiff to hard, slightly moist, red, non calc, very slightly sandy. Strong brown color mixed w/ above after 2.5.

5.3 - 6.1 - - med to low plastic, very stiff, moist, gray and strong brown, non calc, sandy.

6.1 - 9.0
SAND - fine and round, moist, strong brown w/ some light gray, non calc, silty.

RECORD DRAWING-WORK AS BUILT

NOTE: SEE PLATE 1-2 FOR BORING LOCATIONS.

AM*0002 28NOV80 NEW SHEET

U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

DESIGNED BY: _____

DRAWN BY: _____

CHECKED BY: _____

SUBMITTED BY: _____

INVT. NO. _____

DATED: _____

DRAWING NUMBER _____

SHEET NO. 133A

SEQUENCE NO. _____

TO ACCOMPANY FINAL FOUNDATION REPORT

PLATE 60